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ABSTRACT

Proceedings of a 1984 workshop on the roles of U.S. colleges in community health care are presented. The objective was to identify common aspects of the experiences of a sample of U.S. colleges that might be relevant to providing health service programs that are in accord with the World Health Organization (WHO) initiative of Health for All by the Year 2000. Presentations and panel discussions cover the following topics: agenda highlights of the 1984 World Health Assembly and expectations for the technical discussions of the Assembly; U.S. policies and perspectives concerning WHO's goal of Health for All by the Year 2000 and a discussion of this goal; the role of land-grant colleges in agriculture and engineering and a potential model for health care systems; rural health programs along the U.S.-Mexican border; the University of Texas Rural Health Program; the University of Arizona Rural Health Program; Working with universities outside the United States; Boston University-Suez Canal University Program; The City University of New York Urban and Rural Programs; rural and urban area health education centers; the University of North Carolina Area Health Education Centers Program; Drew Postgraduate School Urban Health Program; a community college linkage program; and the University of Alabama-Community Colleges Consortium Program for Underserved Areas. Appended are the workshop agenda, a list of participants, and information on the workshop process. (SW)

ED275223

THE ROLES OF U.S. INSTITUTIONS OF HIGHER EDUCATION IN COMMUNITY HEALTH CARE

Proceedings

of

An Invitational Workshop

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
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This volume of proceedings was compiled and edited by staff of the Institute of Medicine with the advice and assistance of the workshop participants, including the advisory committee whose members are listed on the following page. The opinions expressed are those of the workshop participants acting as private individuals and do not represent policy positions of the Institute of Medicine, the National Academy of Sciences, or of organizations sponsoring or cooperating in the workshop.

The Institute of Medicine was chartered in 1970 by the National Academy of Sciences to enlist distinguished members of appropriate professions in the examination of policy matters pertaining to the health of the public. In this, the Institute acts both under the Academy's 1863 congressional charter responsibility to be an advisor to the federal government, and its own initiative in identifying issues of medical care, research, and education.

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The Institute of Medicine's Invitational Workshop on Roles of U.S. Institutions of Higher Education in Community Health Care was made possible by grants from the Carnegie Corporation of New York and the United States Public Health Service.

The Institute expresses its very deep gratitude to all the participants for their willingness, on very short notice, to adjust their personal schedules to attend the workshop. A special word of appreciation is due those institutional leaders who, without time to prepare formal papers for the workshop, agreed to present informal, "off-the-shelf" descriptive summaries of the community health programs at their institutions. Their names, as well as those of the other workshop program contributors, are listed in the table of contents; all workshop participants are identified more fully in Appendix C.

David Hamburg, president of the Carnegie Corporation, and John H. Bryant, Special Assistant to the Assistant Secretary for Health of the U.S. Department of Health and Human Services, offered the seminal suggestion for a workshop to the Institute. Dr. Bryant and O.O. Akinkugbe, Professor of Internal Medicine, University of Ibadan, Nigeria, made available a background paper prepared for the 1984 World Health Assembly Technical Discussions on the topic: The Role of Universities in World Health Organization Strategies for Health for All. That paper was most helpful to the Institute's Advisory Committee in planning a workshop that would be relevant to the participation of the U.S. delegation to the Technical Discussions, which Dr. Hamburg chaired and for which Dr. Akinkugbe served as secretary.

The Institute also is most appreciative to Edward N. Brandt, Jr. Assistant Secretary for Health in the U.S. Department of Health and Human Services, and C. Everett Koop, Surgeon General of the U.S. Public Health Service, key members of the U.S. delegation to the World Health Assembly. They inspired the participants through their own participation at workshop sessions, as well as through their support of the Public Health Service grant award for the workshop. Linda Vogel of the Office of International Health of the Public Health Service, project officer on the grant, provided timely and effective liaison with the Institute staff throughout the grant period.

Especially noteworthy contributions to the planning of the workshop were made by Elena O. Nightingale, Special Advisor to the President of the Carnegie Corporation, and Carol Shurman, Director for Federal Relations for Health and Biomedical Research, Association of American Universities. Barbara Turlington served as rapporteur at the workshop plenary sessions;

Karen Bell, Eileen Connor, and Jessica Townsend of the Institute professional staff performed a similar role in small working group sessions during the workshop. Alfie DeMoss and Dorothy Sheffield of the Institute's support staff provided invaluable administrative and secretarial assistance throughout the planning, preparation and conduct of the workshop.

Lastly, the Institute wishes to acknowledge with deepest appreciation the extraordinary work and contribution to the success of the workshop of Margarett Whilden, consultant to the Institute, who served as workshop coordinator. Under severe time pressures, Dr. Whilden efficiently and effectively made all of the administrative and technical arrangements for the workshop as well as contributing to substantive development of the agenda. Her inexhaustible energy and commitment, along with an unfailing graciousness, were appreciated by all who were involved in the workshop.

Frederick C. Robbins
President, Institute of Medicine
and
Chairman, Advisory Committee

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SUMMARY STATEMENT

An Invitational Workshop

on

The Roles of U.S. Institutions of Higher Education
in Community Health Care

BACKGROUND AND PURPOSE

A pledge to support a global effort to attain "Health for All by the Year 2000" was made by 134 members of the World Health Organization (WHO) in 1978, with primary health care emphasized as the lead program for achieving that goal, particularly in developing nations. "The Roles of Universities in WHO Strategies for Health for All" was explored at the Technical Discussions held May 12-14, 1984 at the Thirty-seventh World Health Assembly in Geneva. The United States, along with other WHO member nations, participated in those discussions, sharing relevant experiences of universities in the United States and deliberating about ways in which the experiences of any one nation may be applicable, appropriate, and transferable to situations in other nations.

On March 4-6, 1984, an Invitational Workshop on the Roles of U.S. Institutions of Higher Education in Community Health Care was held in Washington, convened by the Institute of Medicine of the National Academy of Sciences.[1] The experiences of a sample of United States institutions of higher education that have been involved in primary health care service programs to improve the health status of defined population groups in the United States or in other countries were reviewed in the workshop. The purpose of the workshop was to identify common aspects of their experiences that might be relevant to effective involvement by other institutions of higher education, in the United States and in other countries, in health service programs that are in accord with the WHO initiative of Health for All by the Year 2000. Members of the United States delegation to the World Health Assembly Technical Discussions were invited to participate in the workshop discussions and a draft of this summary statement subsequently was provided to them as an informal resource document for the Technical Discussions.[2]

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[1]The National Academy of Sciences is a private, independent institution, not a part of the United States government. Members of the Institute of Medicine are from all sections of the country and are elected to the Institute for their achievements in medicine, health, and related sciences and disciplines. Financial support for the workshop was provided by the Carnegie Corporation of New York (a philanthropic foundation) and the United States Government Public Health Service.

[2]Additional information on the workshop process and cautions regarding the general applicability of the consensus views that emerged, the agenda, and a roster of participants may be found in the appendixes.

It must be emphasized that the consensus views following are those of the workshop participants as private individuals. They do not represent the policy position of any institution, agency, government, or country of a participant.

CONSENSUS VIEWS

Preface

The participants interpreted the World Health Organization effort, Health for All by the Year 2000, as a process to engage each nation of the world in a continuing program to provide adequate primary health care to its entire population. Improving the health of each nation's population through expanded primary health care coverage was viewed by the participants as both a valued expression of social equity and a demonstrably sound national investment in human resources for economic and social development. The participants felt that this dual perspective applies equally well to the United States and to developing nations.

The participants further endorsed the general proposition that community-based programs to expand primary health care coverage to underserved populations involve complex knowledge domains that constructively challenge universities' intellectual resources and offer exciting new opportunities for institutional excellence. As the title of the workshop indicates, the participants felt that, in the United States at least, institutions of higher education other than universities, i.e., colleges, also can, and many do, have challenging roles in such programs.

It was recognized that, because of factors such as differing missions, traditions, competency mixes, and available economic resources, not all institutions will respond to those challenges and opportunities in the same way, particularly in terms of direct involvement in primary care service programs. However, many options are available for effective involvement through teaching and research, as well as through service, including at a very minimal level the teaching of good individual health care practices to all students in an institution.

Last, the workshop participants noted that many universities in the United States have been struggling for some time to define what their proper roles should be in primary health care service programs, as well as in related teaching and research programs. However, no generalizable "template," or set of design specifications, for effective involvement

has emerged; the cases presented at the workshop were viewed as examples of the variety of forms that institutional roles have taken. This suggests the desirability of a continuing process of sharing information about what seems to work and not work under varying conditions at both United States and non-United States institutions. Common elements among those experiences might be identified and then adapted by other institutions, including those in the United States as well as those in developing nations. It is in that spirit that the workshop consensus views and proceedings are presented, with the hope that this report will be a useful resource document for institutions of higher education considering beginning, or expanding, involvement in primary health care services programs in the United States or other countries.

Common Institutional Prerequisites

Higher education institutions in the United States that have become involved in community primary care service programs have two basic characteristics that seem essential for establishing those programs.

- The philosophy and mission of the institutions explicitly include the translation and application of knowledge (service), as well as the transmission and preservation of knowledge (teaching), and/or the generation of knowledge (research). The service mission for publicly supported universities was indelibly impressed into the United States educational system by the federal government when the United States was a relatively young, developing nation. In 1862, grants of land were authorized for the establishment of at least one university in each state that would "provide practical application" of knowledge in the several pursuits and professions of life. The teaching and service missions of those "land-grant" universities was explicitly enlarged, in 1877, to include research as a joint federal-state support effort. Today, many other public institutions and major private institutions in the United States also include service within their philosophy and mission, but the priority given to service programs varies considerably.

- There is a clear, effective institutional commitment to the community level of societal life as a valued place for service, for utilization of its graduates, and, when research is included in the mission, for scientific inquiry. This commitment has been made by institutional officials at various levels of authority and responsibility; generally, but not always, the higher the level, the more effective the commitment. The most effective form of commitment has been allocation of institutional resources to local community service. However, priority-setting policy statements alone, when made by high level leadership, also have been effective; adjustments have been made in utilization of available resources at lower

organizational levels, e.g., in schools and departments. This form of commitment also has encouraged these levels to generate new resources from outside of the institution.

Common or Predominant Role Characteristics

In the United States leadership responsibility within universities for their involvement in community primary health care service programs has varied, but medical schools have been predominant. Those schools traditionally have provided hospital-based specialty care services, so the addition of primary care service has broadened the context of their institutional service to include the total community health care system.

Primary health care service programs of universities frequently are multi-disciplinary; the specific mix varies among institutions, depending upon the specific requirements of the community programs. Schools of medicine, nursing, public health and allied health predominate, but schools of the other health professions, the behavioral and social sciences, civil engineering, and public administration also have participated. The universities generally have established a discrete organizational unit (e.g., office, center, institute), usually attached to a school or department, to be the focal point for internal coordination of the entire institution's involvement and to perform whatever program management responsibilities the institution may have. That unit also serves as the communications link between the institution and other organizations participating in the program.

University involvement in primary health care programs commonly includes some combination of service, teaching, and research in local, community-based activities. Examples include the following:

- Technical assistance to health services providers and to community institutions in planning, organizing, implementing, and evaluating the community program.
- Continuing education for all health professionals in the program, including the development and operation of accessible, up-to-date information and materials resource centers at field locations.
- Delivery of primary health care services at field locations by faculty preceptors and students in clinical training, usually in cooperative relationships with other providers of health care.
- Research in basic and applied clinical epidemiology for

  - assessing community needs

- determining priorities in resource allocation

- setting interim goals, measuring progress, and evaluating effectiveness

o Assessment of cost-effectiveness of alternate primary health care technologies and organizational arrangements for primary health care services delivery.

The community primary health care programs in which the universities have been involved are frequently multi-institutional in two important aspects. One or more other institutions of higher education may be involved, each participating according to its own mission, academic competencies, and available resources, in collaborative networks. One of the institutions typically assumes a lead role for the collaborative effort.

Most important, non-academic community institutions and organizations frequently have been involved as partners in the initiation, planning, and implementation of the programs. The collaborative involvement of these groups has tended to foster and sustain a spirit of community self-reliance in expanding adequate primary health care coverage to include all members of the community. Participants have included state and local governments, community citizens' groups, health care provider institutions, practitioner societies and associations, business and industrial firms, and local philanthropic institutions. Coalitions or consortia typically have been formed for management of the program, usually with one of the governments or community organizations assuming a lead role.

A range of preventive, curative, ameliorative and rehabilitative primary health care services have been provided in the programs, depending upon the health needs of the population served. However, there typically has been emphasis on health promotion and disease prevention, frequently including health education programs for community members.

Last, the roles of universities and other institutions of higher education in community primary health care programs in the United States that were reviewed in the workshop are characterized by a special willingness on the part of the institutions to learn from their experiences. The program linkages they have established with other institutions reflect mutual respect, flexibility and collaborative working relationships. These more-or-less intangible qualities were found to be immensely important in the two cases reviewed of involvement of United States institutions with institutions of other nations in the latter's community primary health care programs. The apparent effectiveness of those efforts, both of which incorporate adaptations of many of the common elements identified above, is cause for cautious optimism; some aspects of the roles of higher education institutions in

primary health care programs may be rather readily transferable across cultures.

Recommendations

The workshop participants recommended five specific future actions related to the roles of institutions of higher education in primary health care programs as possible follow-on activities to this workshop and to the Technical Discussions at the World Health Assembly.

- A nationwide survey should be undertaken to develop a comprehensive inventory of the involvement of United States institutions of higher education in community primary health care programs. The survey should be designed to provide an information base useful to institutions considering the initiation or expansion of such involvement, community institutions and organizations conducting or considering establishment of primary health care service programs, and federal, state, and local government health policy decision makers.

- A similar nationwide survey, perhaps in conjunction with the preceding one recommended, should be undertaken to develop an inventory of the involvement of United States higher education institutions in international health activities generally. Special emphasis should be put on their activities in community primary health care programs, particularly those undertaken through linkages with higher education institutions in other nations.

- A series of regional workshops in the United States, patterned after this Institute of Medicine workshop and perhaps organized by the Institute, should be convened. In addition to institutions involved in primary health care programs, participation should be broadened to include higher education institutions in the region not currently involved, local and state governments, and selected community organization leaders--the "movers-of-change". The purposes of the workshops would be to increase awareness of the opportunities for institutional involvement in primary health care programs, and to improve understanding of role alternatives, including participation in networks and consortia of institutions and communities in the region.

- The World Health Organization should be encouraged to conduct a series of regional (global regions) conferences on the roles of

universities in primary health care. Discussions among universities in specific regions might focus on adaptable, appropriate, affordable technologies, and alternative social organization arrangements for delivering primary care. A major objective of the workshops would be to lay the foundation for potential networks and consortia of institutions for collaborative participation and sharing of resources. Invitees should include government ministries concerned with health services, finance, planning, and education. Representatives of the World Bank and other potential multilateral funding institutions should be invited to participate, as well as representatives of nations involved in bilateral health cooperation agreements with the participating nations of the region.

- A more focused international workshop on univeresity roles in community primary health care programs should be convened, perhaps organized by the Institute of Medicine, to which representatives of higher education institutions and ministries of health in one or two selected developing nations would be invited, along with representatives of a few United States higher education institutions such as those participating in this Institute workshop. The potential adaptability of the lessons learned in the United States to the specific health, economic, social and political situations of these developing nations would be thoroughly explored. Conversely, the experiences of the developing countries would be examined for their potential relevance to situations in the United States. Particular focus would be on identification of specific appropriate and affordable technologies, on problem-solving techniques in planning, organizing, managing and evaluating programs, and on arrangements for effective community relationships.

PROCEEDINGS

An Invitational Workshop

on

The Roles of U.S. Institutions of Higher Education
in Community Health Care

FIRST SESSION

WELCOME
Frederick C. Robbins

BACKGROUND AND PURPOSE OF WORKSHOP
Walter Rosenblith

AGENDA HIGHLIGHTS - 1984 WORLD HEALTH ASSEMBLY
Jose Laguna

U.S. POLICIES AND PERSPECTIVES IN RELATION TO WHO'S GOAL OF HEALTH FOR ALL BY THE YEAR 2000
Edward Brandt

EXPECTATIONS FOR THE TECHNICAL DISCUSSIONS, 1984 WORLD HEALTH ASSEMBLY
David Hamburg
John Bryant
O.O. Akinkugbe

ROLE OF LAND-GRANT COLLEGES IN AGRICULTURE AND ENGINEERING: A POTENTIAL MODEL FOR HEALTH CARE SYSTEMS?
Moderator - Robert Graham
Presenter - Steven Beering

WELCOME

Frederick C. Robbins

DR. ROBBINS: Good evening. I am Fred Robbins and I am the president of the Institute of Medicine. It is my happy duty to welcome you all here. I want to point out that this workshop is a joint venture of the Institute of Medicine, the Public Health Service, the Carnegie Corporation, and WHO.

I would like first to ask Dr. Rosenblith, who is the foreign secretary of the National Academy of Sciences, to make a few comments about the purpose of this meeting. He is one of those rare triple-threat people; he is a member of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. So whenever we want somebody to talk who represents the whole place, he can do it.

PURPOSE AND BACKGROUND OF WORKSHOP

Walter Rosenblith

DR. ROSENBLITH: This meeting comes at an important time during the preparations for the technical discussions that will take place in the month of May on the Role of Universities in WHO Strategies for Health for All by the Year 2000.

The United States, along with other member nations, will be expected to participate in those discussions, to share our experiences, and to help in the deliberation of seeing what is applicable, what is appropriate, and what is transferable, in contrast to the kind of technology transfer that we hear a great deal about.

In some ways this building represents an interesting period in the history of this nation. Within one year, President Lincoln signed both the Morrill Act, for the establishment of the land-grant colleges, and the charter for the National Academy of Sciences. MIT was founded one year earlier than that, but somehow, it managed to become a land-grant college. MIT opened its doors in 1865. When I was Provost there, it was still receiving $20,000 a year because of its status as a land-grant college.

If one looks at this whole era, in which an elite institution such as the National Academy of Sciences was chartered and the land-grant colleges were started, one sees that there was indeed a kind of tension between these two ways of looking at the world of knowledge.

If one looks today at the ecology of knowledge-institutions that this country has produced--other countries have produced different kinds of ecologies--one has the feeling that, indeed, as knowledge becomes one of the major primary resources of the way in which our country and the world is being operated, we were very wise not to commit ourselves to a single knowledge- institution. From the very beginning we looked toward an ecology of such institutions.

I have been impressed, each time our Chinese friends came to Boston and they wanted to know, "How do you do it? How do you run an MIT in China?" I always felt from them that the four modernizations were really nothing else than a transcription of the Land-Grant College Act.

I would like to quote one sentence from the act. "There should be, in each state, at least one college where the leading object shall be, without excluding other scientific and classical studies, including military tactics, to teach such branches of learning as are related to agriculture and the mechanical arts in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." That is pretty close to the four modernizations of Chou Enlai.

At the time of the enactment of the Morrill Act, health did not play the role that it plays today. Today, 10 percent of the GNP and 5 to 6 percent of the labor force are involved in health care.

So if we ask ourselves, how many of the 12 million plus post-secondary students in this country are going to go into health-related occupations, you can see that we have here an enormous human resource that needs to be in some way related to the theme of what WHO is trying to do at this time in Health for All.

The late sixties and the early seventies, when the universities were trying very hard to do something in the urban field that would correspond to what had been done in agriculture, urban extension was one of the great themes. Many of the students and quite a few of the faculty thought we ought to try that, and it turned out that it was not so simple.

I think it is not simple for the reason that in spite of what some of these documents that I read say, when one talks about "the" university, there really is not any such thing as "the" university. There are many varieties of institutions in post-secondary education. There are the research universities, there are the junior colleges, and there are the liberal arts colleges. All of them, to my way of thinking, have a role in Health for All. The university is not, as somebody has said, a particularly good service station with respect to many of these issues.

I had a teacher named Philip Fron, who was also a biographer of Einstein. He used to say "Problems in nature do not come with departmental labels," to which I should like to add, problems in society come with fewer departmental labels than those of nature. The problems of how societal needs are defined, how they are approached, and how they are managed, are particularly difficult ones.

We need to realize that we need to maintain, in the universities, a tension that is not just a bipolar tension between teaching and research, but a tripolar tension between teaching, research, and application.

What you mean by application and how you define transitory, programmatical-based buffer institutions is perhaps the most difficult thing for a university to do. It is easy to create a center, as long as you do not ask what is going to happen five or ten years from now. It is easy to say, "Let's have a department," as long you do not recognize the fact that, given the way in which knowledge is growing both intrinsically and under the influence of extrinsic factors, we cannot guarantee that biology will stay a single department, for example.

So the problems that we have are partly problems of our structures and partly problems of how we adapt to change. The Academy complex has just put together a new group which is known as the Government-University-Industry Research Roundtable in order to bring the various sectors into a more meaningful debate on what societal needs are, i.e., how they are to be defined, because there is not really anybody that can give you the specs for what it is that you want to create here.

We could make very substantial progress in the area of continuing education, if we learn to live with that kind of ambiguity and if we learn to deal with intersectoral cooperation. It is very difficult to teach young students, who have relatively little experience of the society at large, what all these problems are and what all the various skills are that are needed to cope with those problems, if the view is solely from a single discipline, profession, or sector perspective.

We hope that out of this workshop will come an understanding of the range and diversity of the ways in which different institutions of higher education in this country have dealt with or have failed to deal with--and I think one can learn from both instances--the problems of health in our own country; what we think is easily transferable; what we think may at least offer an interesting entry into a menu of various items for different countries to consider. Out of that, we may ask ourselves, "How can we cooperate most effectively with academic institutions in those countries, given the complex relationships between those institutions and their various government ministries. We have to understand how we can reach a consensus on issues under those circumstances. We will have to accept that some things cannot be transfered because societal systems are so different.

I think we have a unique resource that we have not used yet in this area, perhaps, more than we have not used it in other areas--it is the foreign student population. We have, currently, in this country, 350,000 foreign students.

One could assume that out of those and the postdoctoral professionals who come here, a very significant proportion are going to be active in their own health care systems. We need to find some way of bringing to their consciousness what it is that the role of health is going to play in their lifetime, and that much of what they are learning ought to at least have a view towards that role. Under those circumstances, whether these students think they are going in for management or for engineering or for any kind of technology or, of course, for the biomedical sciences, they may, in some way, be involved in health care systems.

We need to be careful about the term, "the university," in respect to other countries, too. In England it means the polytechnics are not included. In other countries, there are other institutions that are not included.

In some respects, broadening the education for people who participate in the health systems is going to be one of the important aspects that probably is going to occur everywhere. The Office of International Affairs of the National Academy in its Board on Science and Technology for International Development (BOSTID) deals in some particular ways with the area of health. I have on my left a former chairman of the most appropriate subgroup of BOSTID and if the occasion arises, I am sure he will say something about that.

We who are participating in this workshop have the task of summarizing extraordinarily diverse experiences, of seeing whether there are any underlying common factors or principles, and then labeling them with some factor that has to do with potential transferability.

Maybe in all of this we ought to be aware of the injunction of the Bible, using the old form which still uses the masculine pronoun only, "He who increases knowledge, increases sorrow." To that I would add that folk wisdom says, "It ain't necessarily so."

DR. ROBBINS: I would like to call attention to the fact that the title of this meeting is The Roles of U.S. Institutions of Higher Education in Community Health Care. We are not talking solely about universities and that may be somewhat peculiar to the United States.

Next we are going to hear from Dr. Jose Laguna of Mexico. Dr. Laguna is presently Vice Minister of Health for Mexico. He has had quite a variety of experiences. He has done about everything in Mexico you can do in the field of health. He has been Dean of the School of Medicine and Director of the Educational Center for Health of the National

University of Mexico. He is a member of The National Academy of Medicine of Mexico, and so on.

He is representing Dr. Soberon, the Minister of Health of Mexico, who is chairman of this year's World Health Assembly in Geneva. Dr. Laguna.

AGENDA HIGHLIGHTS - 1984 WORLD HEALTH ASSEMBLY

Jose Laguna

DR. LAGUNA: We have received the background documents for the Technical Discussions of the next Assembly dealing with the Role of Universities in WHO Strategies for Health for All. Generally, we accept almost everything that was said in these documents. We realize that the great challenge put forward in these documents is really to get together health ministers and leaders of academic communities, try to generate a dialogue between the two broad groups and thereafter, promote joint and wider interaction between governments, universities, and society.

As a by-product of this activity, we may be able to assess the potential that the universities can have for influencing the outcome of health care in different settings around the world and at the same time, accept the diversity in form, character, role, and function of higher educational institutions in different sites.

In Mexico City, we are making arrangements for a meeting of the International Association of Universities to be held in Mexico City next April. The main questions that will be dealt with, in relation to health care, are 1) what has been the role of the university, 2) has the university played a role in the extension of coverage policies and activities, and 3) what has been the impact of university manpower training programs in health care?

We will try to answer these questions, using as a frame of reference the following: first, there is a world-wide commitment to promote higher health levels by the end of the century; second, every country should adapt its strategies to the prevailing socio-economic and cultural characteristics; third, every university should launch a plan to develop its contribution towards Health for All by the Year 2000; fourth, primary health care is to be emphasized as the core strategy; fifth, the development of appropriate technology should be encouraged; and, sixth, whenever possible, universities should participate actively in the delivery of service.

These statements sound very important to me. If there is general agreement on the role of the universities as the designers of educational programs, that is where all the documents coincide, i.e., the application of the different technologies to primary health care, then universities

seem to be rather active in the ability to show fresh perspectives in defining the issues in relation to the implementation of policies.

Another issue that everybody seems to agree upon is that the universities are very good for the education of the general public and as the people's leaders.

I would like to point out that although these statements seem quite clear, if you compare them to the general statements of the WHO on Health for All by the Year 2000, i.e., the main strategy, actually this primary care, there are at least ten different programs or subprograms. I would like to analyze these.

First is the subprogram of health education. This means mainly changing the attitudes of the public towards the promotion of its own health and everybody involved in the family constellation. The other aspect of health education is the adequate use of services. People have to know how to use a health center, a hospital, or any advisory capacity of the system. Especially in the many developing countries, this has to do most with the activities of the general education health system at large, not the specific role of the university. To reach the enormous numbers of people involved in these activities implies the use of different media to reach them, and usually the universities are not adequate for that activity.

Another subprogram in primary health care is food supply and nutrition. We know for sure that food supply and nutrition are something that is beyond the health system as such. We have said that this is the sort of an intersectoral activity that we should promote, but, it will be very difficult to achieve by the year 2000, or for whatever year we discuss. Food for all means three meals a day for all, and three meals a day cost lots of money.

Safe water and basic sanitation--again, this is something more related to another sector than the health sector as such. Maternal and child care--this belongs, usually, to the health sector and everybody is very happy with this program because they can do many things in relation to mothers and children.

Immunization, again, is a definite subprogram related to the health sector as such. However, endemic diseases are beyond the control of the health sector. For instance, malaria includes lots of non-health problems. It is not easy, in developing countries, to control endemic diseases because it is not a matter of just checking the disease at the individual level. You have to use other strategies.

The treatment of common diseases and injuries and the provision of essential drugs is another of the subprograms of primary health care. For us, it has been a difficult problem to try to define exactly what is

a common disease or injury and what is the way you deal with this common disease or injury.

Something can be very common but very difficult to handle. For instance, in Mexico we have 5 million workers covered under the social security system. Out of them, 500,000, that is one-tenth of them, are injured every year. One-tenth of the labor force in Mexico is injured every year. Out of those injuries, half of them--that would be 250,000 per year--are hand injuries, fingers or something. That is a very common injury. You need to have a very extensive medical care system to deal with this very, very common injury.

The same thing could be applied to many, many other common diseases that would require lots of drugs and things. We have to accept that, in general, we understand the implications and the importance of primary care as the main strategy.

In every country, maybe in every region of a definite country, we have to pinpoint what activities should have priority and what the role of the university or the universities is in preparing the personnel, in opening up fresh perspectives, and in applying the appropriate technology that could be useful for every activity.

I might say that one of the problems that we are facing is that we have to specify in every case what is to be done in relation to every single problem of health with the specific individual. We must move from the definition of the problems to recommendations for health services to solve the problems, to services the universities can perform in their educational role, i.e., the promoting of new perspectives, the utilization of appropriate technology, and the education of the public.

Another problem that I would like to discuss is something that is found in the documents that we surveyed. It is the necessity of having the university do interdisciplinary work. Apparently that is the key issue of the university approach.

If you can put together all the talents of the university coming from every field, you can find solutions to the problems. But the problem, at least in our country and maybe in some other developing countries, is to put together people with no interdisciplinary mentality; people who are unidisciplinary. They have been taught to work within rigid disciplinary structures. Even though we understand the nature of the problem, it is very difficult to put together people with different interests and knowledge and get them together to formulate solutions for these multifactorial problems.

If we send these people to be trained, they are trained either in the classroom or with books. In books and classrooms, you can say anything. It can be a multi-disciplinary activity in the classroom. In reality, in a health center or in a hospital, the physicians, the nurses, the

auxiliaries, everybody dealing with a problem uses the traditional way of dealing with problems, that is, the unidisciplinary approach. So I hope that you can understand that in many situations in our university setting it would be very difficult to evolve from the situation where we are now.

Finally, I would like to point out another aspect that, for me, is very important. Usually government and the health services are dealing with societal demands; demand means the social pressure of groups trying to get something out of the government. Universities do not deal with societal demands; they deal with ideas, with intellectual needs. To put ideas together with societal demands, i.e., the way the services work, is another very difficult part of the problem. It is, of course, the ideal way of dealing with health problems.

In some aspects, we have to accept that most of the trend in this Health for All by the Year 2000 is an act of solidarity of the developed countries towards the developing countries. In those developing countries we are facing the real problems related to the health situation.

Even if you overlook the subprograms of primary health care as the WHO put them, you have to accept that in the developed countries many of the issues have been dealt with in a very successful way. You take it for granted. Nobody is worried about safe water, basic sanitation, or the food supply in the developed countries. You take it for granted because it is there. They are not there in the LDCs, and that is the problem in trying to write all these subprograms for the health of the people.

DR. ROBBINS: I am sure Dr. Brandt will make that clear in his comments on United States policies and perspectives in relation to the World Health Organization's goal of Health for All by the Year 2000. He is the Assistant Secretary for Health, Department of Health and Human Services of the United States.

He will chair the U.S. delegation to the 1984 World Health Assembly. His background includes distinguished positions in academia, including Vice Chancellor for Health Affairs at The University of Texas and Associate Dean of The University of Oklahoma Medical Center. Dr. Brandt.

U.S. POLICIES AND PERSPECTIVES IN RELATION TO WHO'S GOAL OF HEALTH FOR ALL BY THE YEAR 2000

Edward Brandt

DR. BRANDT: I am delighted to be able to share this platform, and I am also grateful to all of you that you would come together to focus your attention on an important topic, one that I think is vital to the success

of the World Health Organization's goal of Health for All by the Year 2000.

The topic of the role of institutions of higher education has been considered for some time by our delegations to the World Health Organization. We have urged members of WHO and the leadership on the Executive Board, on which I happen to sit as the U.S. representative, to pay more attention to higher education and the positive role that higher education can play in achieving the goals.

As a result, they have responded positively and made the role of higher education in achieving this goal the topic for the technical discussions of the World Health Assembly. I am delighted that they will be chaired by Dr. David Hamburg, a very distinguished educator, who understands precisely some of the activities that higher education can accomplish.

The discussion that all of you will engage in over the next two days will be of great value to our delegation as it goes to Geneva in May. We are delighted that Dr. Hamburg agreed to serve and delighted and grateful to Dr. Robbins and the Institute of Medicine and to all of you for participating. I think that we all agree that the academic community has great strengths which can contribute to our achievement of this goal.

Let me take a few moments to tell you what the strategy of the United States is towards achieving Health for All by the Year 2000. We have committed ourselves to the achievement of a number of public health objectives by the year 1990. These objectives are all identified in a publication called Health Promotion and Disease Prevention Objectives for the Nation. This publication has served as a stimulus to the World Health Organization. The document has been circulated among top health leaders around the world and is now cited regularly in discussions at the Executive Board as goals are set throughout the world.

Clearly, we are supportive of the entire concept of the global strategy of Health for All by the Year 2000. However, I think, with respect to the World Health Organization, that there are a number of important questions about the progress of that global strategy.

Representing the Program Committee, I reported this year to the full Executive Board on the progress of the world in meeting this goal. I have to tell you that there is a great deal of question about how far we are getting; indeed, only about three-fourths of the nations reported any activity at all, and the fourth that did not report are not all developing or poor countries.

We raised a number of questions about the progress--such questions as what kind of information is being gathered to use in measuring the progress of the strategy, country by country? What kind of monitoring systems are available and are being employed to ensure the gathering of

consistent, quality information? What instruments are available for evaluating progress, if, indeed, progress can be measured? And what means are being used in each country to involve as many people as possible in the whole spectrum of health, medicine, and social services?

We are concerned about these questions, because the year 2000 is not far away. Indeed, it would be tragic to approach that year lacking any evidence of what has been accomplished. To a great extent, those questions deal with the process of a strategy. Each nation has to help its citizens absorb the health message so that the total strategy becomes reality for every individual. In fact, the whole strategy is built upon the idea that every man, woman, and child must be involved in developing and securing his own health, or it just will not work.

In the United States, we have set out fifteen major areas for improvement in the health status of Americans through health promotion and the prevention of disease and disability. All of you, I think, are familiar with those fifteen objectives. Each of them has numerical goals associated with it and, indeed, in total there are 227 measurable numerical goals that have been set for the year 1990. One of these has to do, for example, with immunization. Our goal by 1990 was to have 95 percent of school-aged children in this country immunized. In fact, by the fall of 1983, 97 percent of the school-aged children in this country were immunized against the six vaccine-preventable diseases. So we are very happy about having achieved that. Another objective associated with immunization was to lower the number of measles cases to 500 per year. That, of course, should follow from achieving our vaccination rate. Unfortunately, we ended 1983 with over 1400 cases, nearly three times the 1990 objective. As of the end of February 1984, we had over 200 cases of measles. Of interest is the fact that they were almost all college students, or students of college age; the ones who were missed by the immunization initiatives in the past. We are now working with the American College Health Association to try to get all the college students in the country vaccinated.

We are fortunate in the United States because we do have reliable systems for gathering and reporting data. We have, also, at the local, county, and state levels, a reliable group of people with a wide range of skills organized to deal with that problem.

We have made the political decision, it seems to me, to invest the human and material resources necessary to change the health status and, thereby, the statistics measuring health status. Our activity and our strategy is built, therefore, upon fifteen general areas of health status with 227 quantified defined objectives. They were not defined solely by the federal government, but by a number of advisory groups to the federal government and, I think, defined in a reasonable way.

It might be of interest to you that there are a number of other objectives that have also been achieved. For example, one of the

objectives set in 1980 was to reduce by fifty the number of cases of diphtheria in the United States. In 1983, only three cases of diphtheria were reported. We anticipate that there will be even fewer this year.

Also, an objective was set to have no more than ten reported cases of paralytic polio. That objective, as all of you know, has also been achieved. The goals and objectives range beyond immunization. In occupational safety and health, we were hoping to lower the rate of work-disabling injuries to 83 per 1000 full-time workers. In 1983, there were 81 per 1000 workers. Again, we are ahead of schedule in achieving that objective.

These achievements are the kinds of direct benefits that can come from cooperative and collaborative efforts of several sectors of our society. The health professions, the private voluntary sector, and various governmental levels have worked together to achieve these objectives. Up until now, one of our great resources, our institutions of higher education, have not been heavily involved.

Each of these sectors has a role to play. It is important that we define those roles, and it is important that we work for total participation. I am hoping that during this meeting, between now and Tuesday, all of you can help us at the Public Health Service as we focus upon the role of higher education in this process.

I know that roles are there for the educational institutions; I know they are important. I know they will be helpful. The roles must be well defined. There cannot be anything fuzzy about them and there cannot be, it seems to me, blurred margins. Unless the roles are well described, they cannot meet the vital function that I see.

Again, I am very grateful that all of you are willing to participate, willing to advise us, willing to help us, to educate us, if you will, so that we can make the upcoming Technical Discussions a success.

I can assure you that those things that you tell us will be listened to, considered, and heeded as we move to Geneva, although I recognize that in some areas there may not be a consensus. Thanks very much.

DR. ROBBINS: Thanks, Ed. Now we would like to hear from three of the people who are very directly involved, or will be, in the Technical Discussions. Each one has been involved in the planning for this meeting. They will give us a further perspective on the expectations of the Technical Discussions at the World Health Assembly. First, Dr. David Hamburg, whom you all know. He will be the Chair of the 1984 World Health Assembly Technical Discussions in Geneva.

He was my predecessor here in this job as president of the Institute of Medicine. He is now president of the Carnegie Corporation of New York.

EXPECTATIONS FOR THE TECHNICAL DISCUSSIONS,
1984 WORLD HEALTH ASSEMBLY

David Hamburg

DR. HAMBURG: I am very grateful to you, Fred, and to Dr. Akinkugbe, for making this meeting possible. I am very glad that it is a genuinely North American meeting, including leaders from Canada and Mexico as well as the U.S.A. I think there is no question that Dr. Mahler's charismatic leadership at WHO and that of his partner, Dr. Lambo in this enterprise of Health for All has had a very stimulating effect around the world. It is an enormously difficult problem. I, for one, identify with this valiant effort that WHO is making, as Dr. Laguna said, to improve health levels by the turn of the century.

It seems to me that there is serious consideration, in a way that I do not recall occurring before on such a widely distributed basis, about what would constitute a decent minimum of health care, including, I think, a wise emphasis on the disease-prevention/health-promotion side of health care.

The problems, as Dr. Laguna made clear and Dr. Brandt echoed, are painfully difficult when, for instance, you are talking about so many countries that may have a dollar per year per person, or five dollars per person, to spend on health care. We are struggling and having difficulty with $1200 per person per year for health care. The magnitude of the gap in resources available is almost overwhelming.

Yet, I have been impressed with the tremendous amount of ingenuity in the developing countries and elsewhere, which has been, I think, to a certain extent, stimulated by the Health for All movement. I think there is much more that can be done. I do see some similarities between and among the problems so widely prevalent in developing countries and the problems in substantial pockets of poverty in our own country, as well as other technically advanced countries. I think we have something in this country to gain from the kinds of ingenious considerations that go into better uses of resources for primary care in other countries. This gives us a chance, indeed a responsibility, to ask what kinds of institutions have some latent strengths to bring to the table, strengths that could contribute a good deal more than is now being contributed to the improvement of the health of people everywhere.

When you look at all your societal institutions with already developed strengths, while acknowledging terribly limited resources, you have to think about institutions of higher education. It has actually not been easy to do so, even though it is conceptually obvious. I think that a good deal of discussion in the WHO leadership is appropriate, about whether to pursue this in an explicit way, for a couple of reasons. One is the assumption, which obviously has something to it, that institutions

of higher learning tend to be quite elitist. Dr. Rosenblith touched on this perennial, and at times creative tension, between research, service and application. It is familiar to us here, and certainly in many developing countries around the world, we tend to focus on a small number of people in the capital and other large cities with very high-quality tertiary care. Yet, perhaps a more modest contribution of those great institutions may be made toward the health of the rank and file of the population. That is one kind of issue that has been, I think, a drag on trying to bring the institutions of higher education into the Health for All movement.

Another is, I think, a very deep-lying concern and sensitivity about the various essential freedoms of institutions of higher education, such as the freedoms of inquiry and expression. These are fragile in so many places. The question is whether one might quite inadvertently do damage to those institutions by mobilizing a powerful phalanx of health-seeking parties to push them toward more direct applications in health or other fields of immediate practical urgency.

Those are genuine problems. Yet, the fact is, the universities in developing countries are reservoirs of talent, as they are elsewhere. They and other institutions also are potential foci for eliciting cooperation from universities in more developed countries. That function of the universities is also, I think, a very important one. The question arises whether you can stimulate the institutions of higher education with integrity, with sensitivity to their essential qualities and freedoms, and provide incentives that would attract a certain amount of faculty attention and perhaps even interdisciplinary faculty attention, to these crucial problems.

The Technical Discussions this year are related to the Technical Discussions last year. You heard Dr. Laguna put considerable emphasis on education for health. Dr. Brandt put considerable emphasis on disease prevention and health promotion. Last year the Technical Discussions were on education for health. The very powerful point, indeed the very first point, cited by Dr. Laguna in the components of the Health-for-All thrust, primary care around the world, would be in that domain. I think the question of how education for health is going to be implemented will substantially involve institutions of higher education and other institutions as well, if anything is to come of it.

I must say in passing it seems to me that the education of girls and women, at whatever level, is an enormously important part of it. I do not say that out of some sense of social justice, though obviously it is very important in that right, but in terms of the growing evidence in recent years of the consequences for health and the consequences for family planning when girls and women are educated. Even a modest level of education, I mean the threshold between non-literacy and literacy in terms of its implications for health and family planning, appears to me to be very great. So, education of women at every level is one aspect of

education for health and has both a direct and indirect impact on health. I see the Technical Discussions of last year and this year as being very closely related.

In the matter of the U.S. role, or the North American role more generally, I hope that the Health for All movement can stimulate us to pay more attention and provide more ingenuity with respect to providing health care for the poor in our own country. I hope that it would help us give more attention to what U.S. institutions of higher education could do cooperatively with universities, ministries, and other private, non-governmental organizations in developing countries.

I believe that the broad range of institutions of higher education, with all this diversity that Dr. Rosenblith spoke about, is a great resource for many kinds of problems. There is an extremely large pool of talented, dedicated, and technically skilled people. With even a modicum of orientation toward interdisciplinary cooperation these days, I think we could stimulate, through Health for All, a modest shift of attention of that immense community toward public health problems around the world. It would be an important contribution.

I hope the Technical Discussions, with Dr. Brandt as Chairman of the U.S. delegation, will have some kind of ramifying effects in this country. Certainly the present meeting, as others have said, will help us to prepare for those discussions.

A crucial step within WHO, which I discussed with Dr. Mahler and Dr. Lambo in January, is the follow-on activity. It would be a very great pity, indeed, if the excellent rhetoric we hope to generate in May would evaporate in the lovely spring air of Geneva without the ideas expressed leading to any kind of institutional arrangements in WHO. The ideas, if implemented, could move us a notch toward wider involvement of institutions of higher education in countries like our own and cooperatively with those in developing countries. That will take some organizational ingenuity and persistence to make it happen.

Our experience in this country is, after all, encouraging in this regard. It has been touched on earlier. The role of the land-grant colleges with respect to agriculture and engineering, at a time when we were a developing country and on to the present, is an extraordinary one. I am very glad we are going to have that presented to us by Dr. Beering.

It is an obvious point that university-based research, in all of its many ramifications, which include the basic level, the political level, and the field level in many disciplines, has enormous impact on the American economy, and on the world economy. There is every reason to believe that more could be done in terms of the utility of university-based research work for health around the world in the next couple of decades.

Finally, we have a tradition which is not as large as I would like to see it, but is well represented at this meeting, of university-based efforts at research, education, and application to widen the coverage of primary care, widen the coverage for health care generally and, also, to widen the application of public health intervention in this country.

It may, indeed, be very stimulating to have Health for All impinge on that sector of our educational system in the next couple of decades. This gives us a chance to think in a fresh way about some traditions that have been stronger or weaker at different times and have been productive in technically advanced countries like our own; and yet, that need very much to be stretched and challenged and stimulated with respect to the health picture all around the world.

We need to sort out the lessons that have been learned from the variety of efforts, for example, in cooperation between our own universities and those in developing countries. We need to consider those lessons in relation to the future potential of institutions of higher education in respect to health of all people everywhere, not just those who are sufficiently fortunate to live in certain places or that have a certain level of income.

So for all those reasons, and more, I thank each and every one of you who responded on short notice to come to this meeting and prepare yourselves to try to do something about the great challenge that we face.

DR. ROBBINS: Now I will call on Dr. Jack Bryant. He is well known to all of you. He is presently Special Assistant to the Assistant Secretary for Health, namely, Dr. Brandt. He is a member of the Planning Group for the World Health Assembly Technical Discussions.

I will not go into his qualifications in other ways. Most of you know what he has written and what he has done.

John Bryant

DR. BRYANT: From the beginning of WHO's consideration of the theme of universities in relation to WHO's strategies for Health for All, there has been both considerable interest and considerable skepticism, and it seems to me that this conflict is continuously present.

Universities are important, of course, but are they interested? Will they be responsive toward challenges that are inherent in Health for All? I wonder, personally, whether this is a matter of universities not getting around to some of the ideas or whether there is a fundamental conflict between what WHO is asking of universities and what the universities, in fact, can do, given their traditions, structures and purposes.

Let me explore that idea briefly because, to some extent, it deals with why we are here. Also, it will help to raise some questions that those of us who are involved in the Technical Discussions need to ask ourselves as we prepare for those discussions and for afterwards.

First, what is WHO about with its Health for All idea? It has already been discussed here extensively by Dr. Laguna. In my view, the central principle of Health for All is that of equity. The central theme of Health for All in pursuit of equity is universal coverage with services that are effective, affordable, and relevant, with respect to the local situation.

This matter of effectiveness has a special meaning for the more developed world, where health is in a continuous state of flux. The more advanced a country is, the more new problems appear on the scene. Often these are social problems, such as teen-age pregnancy, drug abuse, alcoholism, and problems of the environmental hazards connected with industry, and so on.

In that sense, I believe that Health for All is a permanent challenge to all nations. Since I have something of a problem with the turn-of-the-century deadline, my own view that I like to put alongside these issues that have been discussed about access and effectiveness of health care and of minimum threshold health is that Health for All might be considered a process rather than a goal in the sense that nations become firmly engaged in the process of striving for universal coverage with effective services.

There has been considerable movement around the world for providing health services. David referred to some of that. I was interested to hear it expressed so explicitly from Mexico. Nations have made political commitments, budgetary allocations, and are in the process of building primary-care infrastructures.

There are some splended, small-scale examples of Health for All being done with very limited resources, the one or two dollars per capita. There are a few national examples, but there are immense problems at the operational level in so many countries where the political commitment has been made. How do you actually get it working--to reach out beyond the limited coverage that has been the case with services that directly address those problems and, as Ed Brandt raised, how do you know that you are out there?

How far can WHO and Health for All go without the universities? Well, I believe not very far. Much more is involved than the somewhat limited kinds of training that most ministries of health could lay on. Much more is involved than incremental adaptations of existing primary care programs. I think profound changes are required, and they place the strongest call on the best that we can do in research and education relating to the basic principles of Health for All.

For example, if a university responds to the research challenges of Health for All, a new generation of scientific questions are introduced. Questions that have to do with universal coverage on one or two dollars, with programs that address the problems that are out there with information systems and surveillance systems. One can define the problems and know whether or not an impact is under way. An infrastructure of primary care can be used to bring some of the exciting advances in biotechnology to the periphery to apply at the primary care level. In education, we think of the problem of a multitiered manpower structure reaching from tertiary-secondary structures out to the periphery and the problems of the ways in which they interact with one another and with the community through such a primary care system.

It invites universities to become involved in the logic of education for competency, defining the competencies that are needed, then developing the settings and the processes for doing that. Few universities have become seriously engaged in such a process; i.e., speaking of it from the point of view of WHO and Health for All.

How does it look from the university side, or the side of higher education? Well, difficult, to say the least. I would say that most of such institutions have not heard of Health for All and, if they have heard of it, they are either indifferent or skeptical or, on occasion, interested; perhaps some are deeply interested.

WHO is very singleminded about Health for All. It is consistent and it is determined. The track record that it has made in pursuing this subject shows you this. The books it has put out, the publications on the managerial process, the planning, the assessment, and so on, are illustrative of that.

Universities, on the other hand, as Walter Rosenblith said so clearly at the beginning, are, first, a very heterogeneous population in the U.S., not to mention worldwide. Any given institution has multiple purposes. They have diverse agendas and, as has been said, they often represent more of a collection of academic talents. The internal interests of its parts often point in different directions.

So it is unrealistic to look for a response of "the" university, as Walter has reminded us. Rather, we look for responses of parts of universities, though in the developing countries I believe that there may be instances in which the leadership of an institution can pull the institution along perhaps more coherently than in our more established institutions. Nonetheless, what will be the impact of the responses of universities? It is difficult to know.

It could vary from none to even a negative impact. The interests of many universities are really divergent from the Health-for-All idea. For example, those whose interests have been captured by high technology will

point in a different direction and pull their people in a different direction than those who are not hi-tech oriented.

The impact might be indirect, that is, there will be a fallout from the university pursuing its business as usual in biomedical science and related areas of science, or there might be a trickle-through of biomedical technology; this might find its way out to the periphery of primary care systems.

On occasion, the impact will be direct and powerful, as we have seen in some universities that have taken this very seriously. Let me mention just for a moment the study by Guy Berjay and his colleagues in Paris that was published by the OECD called, "The University in the Community." Berjay and his colleagues mention that universities were caught up in the economic crisis that has covered the world, and that is certainly true. He made the point that this crisis should not be allowed to mask another crisis, namely, of universities and institutions of higher education searching for greater social meaning, that is, a new openness to the community. Here we define community very broadly to include everything outside the university--local government, social groups, industry, and so on. They are hunting for new partnerships, looking for new permeabilities between the university and the society around them. In other words, new relationships with society, new social accountability.

I have asked Berjay on several occasions, if this is the actuality that he and his colleagues found in the universities around the world as they looked, or if it is their wish that it be so? He insisted that it is their findings. It is an interesting question, nonetheless.

These two ideas, of what WHO needs from the universities and what the universities new relationships to society will be, at least suggest that we have in front of us a social equation. On the one hand, WHO and Health for All need the participation of institutions of higher education. On the other hand, we can ask the question, "Is it likely that universities are seeking a greater social meaning?" If they are, will they see in Health for All a channel for pursuing that search?

If the answer to that on the university's side is more no than yes, then we can see continued indifference on the part of the university. On the other hand, if it is more yes than a no, then it is an opportunity for partnership. If there is such an intersection of interests--and we would not expect it to have tidal-wave proportions--WHO and the ministries of health are not practiced at relating well to universities or to interests within the universities. Only parts of some institutions will intersect these interests, in which case there is the possibility of a partial joining of interests.

We can ask the following questions: How much interest in community health care is there within the university community around the world? How are those interests to be found, energized, and used? What are its

characteristics and potential? And then, finally, coming to David's question, what might be done internationally to promote and encourage greater involvement of universities in this Health-for-All effort, both at the Technical Discussions, as a planning stage for that, and then, afterwards, what might be done to follow on?

DR. ROBBINS: Now I am going to introduce Dr. Akinkugbe. He is presently serving as Secretary to the 1984 Technical Discussions. He is Professor of Internal Medicine at the University of Ibadan in Nigeria. He has an extraordinarily interesting past history. For example, he was formerly a member of the British Royal Household, having served as assistant to Lord Evans, the Queen's physician.

O. O. Akinkugbe

DR. AKINKUGBE: I bring you special greetings from Dr. Mahler, the Director-General of the World Health Organization, and would especially like to commend the initiative of the Institute of Medicine in hosting this invitational workshop.

Permit me, also, to thank the organizers for asking me to participate. I suspect the Institute's magic wand is irresistible and that the coterie of experts that you have here these three days will do ample justice to the formidable menu of topics relating higher education to community health care in your environment and beyond.

You in the United States already have a plethora of experience in these matters. It does not require much effort to see that service is part of your own national ethos, and in no other field of endeavor have you demonstrated this as clearly as in health, education, welfare, and human services. What is to me even more remarkable, is your capacity for self-examination instead of self-congratulation. There is a continuing urge and a manifest effort at critical appraisal of what has been done and how best to improve on it in the light of contemporary events.

I have come here to listen and learn and perhaps share with you my modest experience in relating the role of universities to the strategies of Health for All in a global context. A rationale for this is provided by Emile Durkheim in his assertion, "On ne comprend pas sans comparaison." For those in the audience who are as illiterate in French as I am, that means, "There is no understanding without comparison."

Since Alma-Ata, the attainment of Health for All by the Year 2000 has been on the agenda of all nations. The zeal with which these ideals are being pursued has varied from place to place, influenced by a whole range of social and cultural factors as well as political and economic imponderables. It is not an act of bad faith to observe that the credo of Health for All is yet to become the consuming passion of any nation.

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However, many of us are, in our different ways, striving towards that Utopia.

Primary health care was identified earlier as the main engine of implementation of Health for All. Most member states of the WHO have, in the past years, actively explored ways in which their health care policies and systems can be oriented towards this broad goal. Such rethinking and reordering has thrown up a number of challenges both for the developed and the developing world. One such challenge is the role of higher education in health.

Now in the more developed world with its fairly clear conceptual framework of the nation-state and its general awareness of the implications of social contract, universities, with some notable exceptions, have come to acquire a hermetic, ivory-tower image and to regard service to the community as tedious irrelevance. True scholarship has often been equated with esoteric pursuits. Field and community-oriented research have rated low on the academic pecking order.

In the emerging and developing countries, the volume of misery inherent in the vicious cycle of ignorance, poverty, and disease, with the obvious lack of manpower resources and organization brought on by the triumvirate, make it difficult for them to do more than merely nibble at the challenge of Health for All. Their universities, in general, continue to limp after the Western intellectual tradition in spite of the lessons to be learned and the problems crying out for solutions at their own local levels.

The Institute of Medicine, that is today's host, some six years ago, studied ways of strengthening U.S. programs to improve health in developing countries. I am not aware of the actions that might have flowed from that practical and pragmatic exercise of 1978, but we do, of course, recognize that realism and demonstrable performance are often poor relations of rhetoric.

A recurring theme of that impressive study was the way in which health problems in developing countries were noted to require concomitant progress in such areas as economic development, reduced population growth, improved food supplies and nutrition, community mobilization and development, improved sanitation, and strengthening of health education programs and health resources commitments. This mix seems to me strikingly akin to the basic elements of primary health care also articulated in Alma-Ata. You may now well ask: What relevance has all this to the tertiary educational process? And what major lessons are to be learned in the different socio-cultural settings?

The U.S. land-grant colleges and Europe's civic universities set the stage for meaningful town-gown relationships over a hundred years ago. Our footsteps have been hesitant in consolidating those gains. It is only now that the drive towards egalitarianism and the storms of economic

recession have jolted academia into a search for social relevance. From Boston to Bangkok and from Mexico to Moscow, universities are now having to confront a new set of challenges. Society's own expectations of these institutions have suddenly heightened. University concern is at last broadening and taking on issues of human development and social justice. This new equilibrium is in a state of flux, but one can already discern a pattern.

North-South interdependence in the area of health and education is best illustrated by the Network of Community-Oriented Educational Institutions for Health Sciences. The forty medical schools which form the Network are equally divided between the developed and the developing world. All place special emphasis on primary health care education, research, and health care activities. In Thailand, the Netherlands, Israel, Sudan, Canada, and the Philippines there are examples of innovations in curriculum design and evaluation and in attitudes for faculty and students to learn in research and service. We must look beyond the medical school or the faculty of sciences or health sciences in our efforts to meet the challenge of primary health care.

A broad intersectoral and interdisciplinary approach is the sine qua non. They are intersectoral in the respect that universities and all institutions of higher learning must relate to government, on the one hand, and to society, on the other. They are interdisciplinary in that the major elements of primary health care extend into the social sciences, agriculture, engineering, and environmental studies. As has been eloquently stated elsewhere, the issue will not be as much the range of courses offered by the institution as it will be the way in which people from different disciplines are taught to talk to each other and understand the values of those concerned with development.

These, then, ladies and gentlemen, are the major imperatives in health and higher education that are beginning to stir academia's consciousness in today's world: a new search for social relevance with global interaction, a perception of society's changing needs and expectations, with adaptation in roles and attitudes of faculty and students. Above all, they are the virtues of an intersectoral and interdisciplinary approach to health-related problems in our different climes and cultures. It would be strange, indeed, if our educational institutions in developing or developed nations had not been enlisted to play and did not themselves seek a leading role in adjusting the total national effort to the needs of a world which has become so small that its peoples must live together peaceably, with mutual respect and cooperation.

I would, in closing, just like to highlight one or two areas in which I feel that the global flavor of the thrust of universities or tertiary institutions in this whole credo of Health for All may have some important lessons for this workshop in the next three days.

I think we must try and look into ways in which we perceive institutions as themselves seeing their role in Health for All--how governments themselves perceive institutions, that is, what roles they envisage for themselves. Second, what forms of tertiary education are there? As you are all no doubt aware, there are as many interpretations of tertiary education as there are countries, and there are even countries without universities or tertiary institutions. What role do we envisage for them in this new movement of universities and health for all?

Then, sir, there is the problem of academic leadership within universities in terms of understanding the whole purpose of Health for All. Having had the opportunity of serving a sentence of hard labor as university vice chancellor in two institutions in Nigeria, I can visualize a situation in which a topic like "Universities and Health for All (HFA)" is brought into the senates of the universities and professors of, shall we say solid-state physics or Islamic studies, promptly ask what all this has to with his subject! The answer, of course, would be that it might be naive of us as university personnel to imagine that everyone will rise to this credo in a very positive way. I can see that the faculties or disciplines that would be most closely associated with trying to understand what Health for All means will be the social sciences, agriculture, nutrition, and other areas that impinge on health.

I do not have the gift of prophetic wisdom, but I would hope very much that if, in the Technical Discussions this year, we achieve no more than generating the awareness in institutions of the importance of being mobilized to assist in pushing this concept forward and if we achieve no more than getting Ministers of Health to hold regular dialogues with academic deans in universities--and I am being careful now not to say deans of health sciences or medicine, but deans that cut across various disciplines--I think the WHO will be more than satisfied in this crucial endeavor.

DR. ROBBINS: Now, the moderator of the next discussion and the person, Dr. Robert Graham, who will introduce our keynote speaker. Dr. Graham is currently Administrator of the Health Resources Service Administration of the Department of Health and Human Services.

ROLE OF LAND-GRANT COLLEGES IN AGRICULTURE AND ENGINEERING: A POTENTIAL MODEL FOR HEALTH CARE SYSTEMS?

Moderator - Robert Graham, Department of Health & Human Services

DR. GRAHAM: It is always a pleasure to be able to introduce someone that one knows fairly well and who is known well to others because that gives some room for creativity in the introduction.

Steve Beering has a background in medicine and health that goes back to the University of Pittsburgh, where he took both his bachelor's and M.D. degrees. He then spent a period of years in professional training and joined the faculty of the University of Indiana in 1969. He made rapid progression through the offices of the University and assumed the role of Dean of the School of Medicine at Indiana in 1974.

I think I would note here that that was a significant time period for the University and for some of the issues that the group will be discussing. During that time period, there was a decision on the part of the University to make a very special type of commitment to the health of the people in the State of Indiana. Both the University and the Medical School changed their roles during that time period.

Approximately a year ago, Steve left the University of Indiana to become the President of Purdue University. During his career in health he has been active in councils and committees of the American Medical Association and the Association of American Medical Colleges. He served as the Chairman of the Council of Deans of The Association of American Medical Colleges.

His presentation this evening is: The Role of Land-Grant Colleges in Agriculture and Engineering: A Potential Model for Health Care Systems.

Presentation by Steven Beering

DR. BEERING: Let me begin by recalling something that the great German philosopher, Emmanuel Kant, said nearly two hundred years ago when, in the twilight of his remarkable teaching career, he tried to distill in a few questions the wisdom that he wanted to impart to his students. He said that the basic questions in life are three: First, what can I know? Second, what should I do? And, third, what may I hope? True to his philosophic teachings, he failed to provide answers for these three questions. Perhaps before I conclude this evening, some answers may suggest themselves in the context of our inquiry.

First, I shall present some further history of the land-grant university system in America. There were several highlight dates, one of which preceded the actual Land Grant Act in 1862. To me it has very special relevance to what I am doing right now and to what we have carved out for ourselves in terms of achieving collective world health by the end of this century. This special date was 1819. It was the date of the chartering of a university near here, the University of Virginia. It was the date when Thomas Jefferson, our third President, might have convened a group similar to this and examined the question of how can we achieve economic stability and economic competitiveness and health across America in our time.

He looked around and observed that the universities in America are all very classical and very similar to the European model. They teach the classics; they teach the humanities; they teach art; they teach music, a little medicine, a little law, a little history. But they are impractical and they are, in fact, not doing anything for the evolution of this new nation. They are not assisting us in developing and pushing back the frontiers.

In the various biographies of Thomas Jefferson there are several engaging accounts of the struggle which eventuated in his wishing to found a brand new university which he said should be peculiarly attuned to the country's needs and to teach knowledge "useful in this day."

In order to do that, he said, such an American university should not only embrace the European model but it should add to that, practical translation and application. It should not restrict itself to enrolling the male offspring of the wealthy merchants and the movers and shakers of society, but it should also include their daughters.

And then he further said it should not exclude those who could not, by accident of birth, afford higher education. It should include all people. It should be a university which would teach the sciences, as well as such practical non-higher education subjects as agriculture and engineering.

The university should prepare the young person for all the pursuits of life and it should give him not just the knowledge of the ancients, but some practical exposure to the kinds of things that would enable him or her to make a living and, most importantly, to make a positive contribution to society.

In 1862--it took us that long--President Lincoln signed the Morrill Act. This Act encouraged each state, with federal support, to establish at least one school which would embody these kinds of philosophies. Today, 5 percent of the over 3100 universities and colleges in this country are land-grant institutions, but they enroll over a third of those 12 million youngsters who are now in school.

In 1887, we recognized, in an amazing leap of logic, that it was not enough to have an institution which transmitted existing information, but that we also needed to have a way of uncovering and discovering and adding to the body of knowledge. So we, as a nation, had another act passed which was entitled the Hatch Act. This Act added to the existing land-grant legislation an edict to build experimental farms, outdoor laboratories, if you will, for the agricultural, engineering, and scientific technical instruction which was available in the land-grant colleges. It was a very wise Act. Not only did it logically add the experimental aspect, but it made it a joint responsibility between the federal government and the various states. To this date, the funding for

this particular research endeavor is shared between the federal and the state governments.

In fact, if you think about it, most universities are not chartered to do research or to do application; they are chartered to teach; they are chartered to educate. It was a very proud moment in our history when we recognized, by legislative mandate, that research is a proper business of the university.

Another important date was 1914, when the Federal Congress added the Smith-Lever Act, which said it is not enough to teach and do research; we have to apply this knowledge. And so the agricultural extension system was legislated, and it followed the Hatch Act model of having participation between the federal and the state governments.

At that time, in 1914, nearly half of the United States population worked and lived on the farm. That is not true today. Seventy-five years later we have only 2.6 percent of all of our population involved in farm work. It is amazing that so small a number of people can feed the rest of us and account for fully 20 percent of all U.S. exports abroad.

The system, which was established in 1862, augmented in 1887, and augmented again in 1914, has survived all of these years and is intact in each of our fifty states. It surprised me a great deal, when I first became familiar with Indiana, that it has been the prototype for education in law, medicine, dentistry, nursing, allied health, and various other disciplines, and that to this day in Indiana, there are ninety-two counties, each of which still has three to fifteen extension agents who daily await instructions from the mother house, the main campus, as to what it is they should impart to their charges who live in their counties.

We have 337 of these agents. We have now equipped them with computers, and what they are teaching in their county extension offices today is dramatically different from what they taught in 1914, but the system is intact. I wonder how many of us in the world of higher education are aware of this national system which allows for communication, translation, and application.

I was fascinated by it back in 1965 and 1966, when I first consulted in Indiana. Out of that early contact came a dual decision. One, on my part, to move there and, second, to design a statewide system for medical education and translation which we call the Indiana Statewide Medical Education System.

We used the agricultural extension system as the basic model for amalgamating six universities and their regional campuses, twenty-seven large hospitals, and nine major cities in a system which now offers the first two years of medical school, nursing, dentistry, allied health, and continuing education, and now we have television instruction, which this

year enrolled over 300,000 students taking courses all the way from amusement to the masters degree in engineering and the doctorate in medicine.

As a side light, we now have the universities--there are thirty-eight of them in Indiana--linked by computer and by dedicated telephone lines. This shared system of communication is paid for in part by the State and in part by the various universities. Our system began with agricultural pursuits, later added the health sciences, and has now been extended to involve engineering.

We have a new program called CIDMAC--this stands for Computer-Integrated Design Manufacturing Automation Center. It is an interdisciplinary project involving our schools of engineering, science, and business, and our new super computer (CYBER 205), which can do 800 million computations per second. We have begun a new endeavor. We began this new program by inviting five major corporations to the campus in a reverse co-op program to bring their own engineers, technologists, and scientists to work with our graduate students, with our faculty, with our undergraduate students, and using the super computer, to help design the factory of the future--namely, the robotics approach to manufacturing.

We have discovered that the gadgetry that we have, the new technology, is limited in two ways. One is that there is not sufficient software or artificial intelligence to drive the new technology and second, and even more serious, that there are not enough people who could operate either the hardware or the software. So we are very much like the space program, developing all three simultaneously. Access, of course, is one of the limitations that we have removed by the immense capacity of the new super computer.

In order to go beyond the most sophisticated kinds of people-development, to enhance the human potential within our state, and to have the university cooperate meaningfully with business and industry, we initiated a statewide technology training program to teach computer technology and engineering technology in the workplace. That may strike you as an overwhelming task. However, by going through the networks that we already have established, we were able to identify twenty-three communities where there were willing partners who would provide the physical space, volunteer instruction, equipment, financial support, and community enthusiasm. Our faculty, of course, from their central headquarters on the main campus, links these sites by their personal visits, with assistants who were hired just for that purpose, and by television and the computer.

We now have developed thirteen such sites. We have three more coming on line in the next six months, and we hope to have the whole system of twenty-three sites unfolded during the next two years. Let me give you a specific example. Kokomo, Indiana, which is becoming the silicon prairie of Indiana, is a site. It has a major subsidiary of General Motors,

Delco Division. If you have a GM car, the radio was made in Kokomo. They have switched to the production of semiconductors and electrical components and employ 15,000 people. Those include nearly 500 individuals with advanced university degrees in engineering sciences, computer sciences, and so on.

We wanted to start with a program for twelve students as a pilot effort. There was such a clamor to get into this program that we opened it on January 9 of this year with a hundred students. Now these are very unusual students. They are married; they are older (22-62 years); they have no previous college degrees. A large number of these students had never thought of going to college before. They disdained going to a vocational or technical school; now they are hooked.

We constructed this program in such a way that the curriculum articulates with any of our university campuses if they wish to complete a four-year degree.

This program could not have worked without inter-institutional cooperation. Crucial to this was the agreement between the trustees of Indiana and Purdue Universities when I came aboard a year ago, that we would work together. Purdue is a land-grant college and I.U. is a state university as well. Neither university has all disciplines available, but together we offer everything.

For example, Purdue does not have a medical school or a law school. I.U. does not have a veterinary school or a pharmacy school. We are currently at work together in this statewide technology program because we are offering it at each of the campuses in the two university systems.

We are at work together in the opposite direction, constructing a major research and delivery effort in cancer. It will involve the I.U. Medical Center and the Purdue Veterinary School, School of Science, and School of Pharmacy.

Also important to the future development is the agreement for state universities to work with private universities. There are six state-related institutions in Indiana and the remainder, the other thirty-two, are private schools. Many are quite well-known, such as Notre Dame, Wabash, and Earlham, to cite only three.

They also are working with us in the communications system, in the medical education programs, and in the technology and computer programs. Interestingly enough, one of the earliest parts of our cooperation was just providing a telephone hookup for one another.

Another essential part is the willingness on the part of industry to work with us, not just in the usual model of an industrial park--we have that as well--but to have them open their doors and their factory floors to having students underfoot in these unique cooperative programs. Our

next challenge is an urban extension program. We have made an effort to do more than create the usual magnet school, which addresses the problems of inner city black youngsters. We are attempting to look at all the high schools in the state.

We have a real problem in this country which we tend to forget about. Do you realize that 12 percent of our nation is illiterate? They cannot read or write. We kid about our people reading the front page, the editorial page, the comics, and the sports page. Twelve percent, 28 million people, cannot even do that.

We noted that our high school completion rate in Indiana, as well as in the rest of the country, was 75 percent or less. That means that 25 percent of the individuals on whom we build our future do not even have a high school diploma. We noted the low college entrance rate of those who do complete high school. It is somewhere between 30 and 40 percent, depending on the state you happen to live in. At the other end of the spectrum, we noted how few people are college-degree holders. It varies all the way from 10 percent in one state to the high of 16.1 percent in California and Vermont.

The average for this country is 14-1/2 percent. Think about that. Two hundred thirty million people and only 14-1/2 percent have the kind of education that all of us will need to lead society into the twenty-first century. Science and technology are no longer the province of the elite scientists. They are becoming part of the liberal education of every man, woman, and child in this country.

We have also, together with Indiana University, strengthened our international programs. We have student and faculty exchange programs in Europe, for example, in Hamburg and Madrid. We have programs in Africa, and programs in South America.

I want to use this moment to lead into what I consider a number of future challenges at home and abroad. Our challenge at home is that we now are possessed of new information and new skills. We have new learners, people who are willing for the first time to say learning is a lifetime endeavor.

We have new technologies such as television and the computer to help us transmit information. We have the willingness on the part of society to open up nontraditional locations--it is no longer necessary to study only in the schoolhouse. You can learn in the factory, in a church basement, or at home. You can have your modem tie you into the computer and get the Dow Jones averages and the day's news right at home. You do not have to be at a special location.

Most important is that we cultivate a new attitude. I have already alluded to life-long learning, and Jack Bryant has called attention to the fact that we now think of education as a process, not as a one-time

event limited to four years in time. We have a new attitude of co-operation--universities with one another and universities with the public and private sectors. We have inter-institutional arrangements of all sorts. We have the willingness to work on statewide, regional, and national levels. We are also open to international opportunities in an unprecedented way.

What, then, are some of the principles that are necessary for a university to be successful in international programming? The first is that a university must act, however difficult that may be, as a corporate entity. I believe that it can be done. I can assure you that both Indiana University and Purdue University are able to make corporate commitments to one another, to the state, to a business, or to a national project. We have the willingness on the part of the faculty to say, "While I may be in chemistry or Tibetan languages, as a member of this university community I think this cooperation is important for us and I will support it in whatever way I can."

It is important, of course, in order for us to be successful as a nation, that we look to those universities that have the track records, the institutional missions and purposes, to be successful in the specific projects that we have set before us.

Second, there must be commitment on the part of the institution, not just on the part of an individual or even a department or school within that university. If we are going to have a real impact, it has to be an institutional commitment.

Third, I would say that whatever program we do together has to be mainline and long term. It cannot be something that we assign only to graduate students, or those who have retired, or those who are no longer part of the main thrust of that institution.

The next principle is that the incentives to the members of the institution have to be the same for work done outside of the institution, be that in the factory or in Egypt, as it is within the institution's own laboratories and classrooms. That is not always easy.

Let me give you one example, in conclusion, of something that Purdue has done and to show you the tenacity that goes into building something abroad. In 1951, thirty-three years ago, we had the opportunity to go to Brazil to assist a rural university which then had only one hundred seventeen students, but was interested in improving its agriculture program. They were interested in developing this program to be comparable, they said, to the baccalaureate level of an American university.

The program had no research, no reaching beyond the institution. There was a small staff, but no one had an advanced degree. This

university is the Federal University of Vicosa, about 250 miles northwest of Rio de Janeiro.

Today, thirty-three years later, there are over 7000 undergraduates, and 1200 masters and Ph.D. students. There are twenty-one different programs, all leading to the M.S. and Ph.D. degrees. There are over nine hundred active research projects. This year there were three hundred scientific papers published in peer-reviewed journals.

They have colonized beyond their own area with an extension of the American land-grant model. The plant is modern and well equipped. There is a large staff, well trained in all aspects of the university enterprise: teaching, research, and delivery. It has become a world-class effort and has impacted Brazilian agriculture as few Brazilian institutions of higher education have done.

Now the specific accomplishments are many, but let me say that beyond having done something for agriculture, this university has developed Brazil's first schools of home economics and forestry. There is an ongoing, permanent exchange program with Purdue which involves not just people, but also our library, consultation services and support facilities.

There are currently fifty-five individuals from Vicosa at Purdue pursuing Ph.D. degrees, and there are currently one hundred fifty-five Purdue faculty working at Vicosa, forty of them on a full-time basis. They rotate at three-year intervals. There is a similar number rotating through short assignments of one to three months.

We have worked out a program of reciprocal scholarships which involves over a hundred individuals right now. We are committed to one another on a permanent basis. I think that is a rather startling commitment for an American university to make.

My only regret is that we have not moved to that degree of sophisticated partnership in all of the programs that we have. We have a much more modest program in Upper Volta, Africa. We have small programs in Luxembourg, Madrid, Hamburg, Germany, and so on. We have over 3000 foreign students on the Purdue-West Lafayette campus. Most of them are graduate students.

Let me conclude by reminding you of what Emmanuel Kant asked, and give you my answers. What can I know? The unknown. What should I do? Do for others. And what can I hope? I hope for opportunities to do the other two.

DR. GRAHAM: Dr. Beering and I had a brief discussion before the session as to exactly what the role of the moderator would be in this assembly. I assured him it would be minimal. His schedule will not allow him to be here for the better part of the meeting, and I would suggest that in the some fifteen minutes remaining to us in this plenary session, in cocktail conversations, and conversations around the dinner table, that we use the time to press him on some of the ideas that he has laid out and raise some issues which may tie in to some of the other concerns which have already been expressed tonight.

As moderator, I will start with one, hoping that others will follow. Steve, as you have explained the land-grant model and its genesis in America, it is clear that a good part of its success was because of its role in economic development, and the public support was for a set of institutions that were, in a very real sense, increasing the real goods and services--the economic pie, as it were.

We have heard discussion of the needs for health care in a number of the developing countries. What role might a land-grant model have in a program that is not aimed at economic development, but at social equity, where, by implication, it may not be increasing, but dividing the available pie in a different way?

DR. BEERING: I will answer that by quoting Benjamin Disraeli, who said that "the health of the people is, after all, the foundation upon which all their happiness and powers as a state depend." I believe this is an economic issue. Education is probably the most powerful economic difference that we can bring to people.

Think about what happens in this country. The average college graduate has an employability, even during the recent recession, of 98 percent. Only 2 percent of the people who were out of work had a college degree in the whole country.

The average college graduate, in his lifetime, will make a million dollars at current dollar values. The average college graduate will have the capability to retrain five, six, or seven times. He has got the wherewithal to stay up with the economic opportunities.

I think that education, in the general sense, is probably the best insurance that you can give a young person. Even at the rates of today's education at a land-grant college (Our cost is about $7000 a year for a young person.), a young computer person makes that back in a year-and-a-half in his first job after four years of education. Where else can you get that kind of return on investment?

As far as health is concerned, if you are not healthy, you cannot work at all. I think if we work out systems, as we have on a small scale for 5-1/2 million people in Indiana, where no one is any farther away from a doctor than about 20 minutes at this point in time, our statewide medical education system did work. We doubled the number of physicians; we created physicians' assistants. Right now we have got too many nurses, would you believe. We still do not have enough doctors, but we have too many nurses and too many technologists. We have overdone it, as the rest of the country has.

But it does work. If you work together, you can make a response to an economic problem, which we had at that time, which was not enough health care people. I think that in the final analysis the most important part is to keep people healthy, to do the health promotion that Dr. Brandt spoke about, especially the preventive aspects. Again, that is education. That is public education; that is continuing education.

If people do not know about immunization, then you will have recurrent epidemics like we had of polio in San Antonio some four or five years ago. So I think education is really, in the final analysis, an economic event of major proportions.

DR. BOSCH: Do you have any experience in the state with the utilization of extension agents, specifically in relation to primary health care?

DR. BEERING: We have not used the extension agents for that in terms of personal care. We have done it with the vet school and the diseases of animals. They have been involved in that. In terms of personal health care, we use the system that the agriculture people have built up and the communication devices, with physicians and nurses and allied health workers using the same locations to reach the public.

DR. HENDERSON: I wonder if you would comment on the economic incentives that are involved. As you point out, the Hatch Act came along, then the Smith-Lever Act, which took the university, first, from an educational mode and moved it toward the research mode. The final Act, which is that of agricultural extension agents and so forth, the translational part, is a new piece which many universities really do not participate in. The financial incentives are not there.

Here the financial incentives were given to the university and it made a difference. I wonder if one looked at the question of involvement in some of the health activities, if we are not asking the question of what is the process and what are the financial incentives of the university administration, the faculty, what-have-you, to become involved. In the health sector, it has not been given and the agricultural sector has been given it generously.

DR. BEERING: I agree with you that nationally it has not been given in the health sector. We were able to work it out in Indiana. A similar

program of funding which currently amounts to about $24 million a year is actually spread around the state and given to hospitals and to educational institutions to participate in the medical, nursing, and allied health programs.

When you compare that to the total budget of these institutions and the total expenditures by the public, it is a drop of water; it is very small. That is true of the extension monies that are floating around nationally. They are very tiny in comparison with the budgets of even just the agriculture school, but they are significant. There is a small and significant ongoing amount of money you can count on, and it is actually quite unrestricted.

Within the agricultural realm, as long as it is spent on the broad general purposes of statewide involvement, it meets the needs of the Act.

DR. NICHOLS: Dr. Bryant said something like this, "We must, in trying to realize the goal of Health for All by the Year 2000, look for the responses of parts of universities," not "the" university.

I was looking at my notes of your commentary concerning our need to have corporate commitment by the university, commitment being on the part of the total institution and not just departments or individuals within that institution. My question is, having looked at international health work in the past somewhat from the sidelines--although we are fortunate to have a commitment in our school--how do those institutions that have the total commitment of departments or individuals within those institutions manage to get involved in issues such as Health for All without that total institutional commitment being there in advance?

DR. BEERING: Let me tell you why I disagreed with Ed. I need to particularize it. I think the philosophic, the policy commitment, has to be institutional, because that is where the legal and financial responsibility is. The functional, day-to-day working relationship, has to be a part of the university.

If you have a veterinary program, clearly the department of languages is not going to be very helpful there. I have been in academic medicine for thirty years. There are times when individual professors, individual units, or departments go out and make their own deals. If the vet school goes out on its own and makes a commitment, then you get into trouble. The individual is left hanging out to dry when it comes to promotions and compensation, tenure, money and what-have-you.

We have to be careful that the institution is fostering a philosophy of commitment, although it realizes that not every actor within the institution can participate in that particular drama. The institution assigns roles to specific groups within that institution. We are really not in disagreement; I just wanted to amplify it.

DR. ROSENBLITH: I was fascinated by Dr. Beering's description of how diverse land-grant colleges can be. I would have difficulty recognizing some of those that I know in this vital situation that exists at Purdue and Indiana. I do, however, want to say that even with all this incredible revitalization that is being brought about, one should not forget that this is not a system that is going to be good forever.

It has not served this nation well with respect to agricultural research at the frontier. That is a problem that many in this city, especially, have been fighting about. In other words, even in the area of industry it has not done the kind of things which today we feel we need in terms of competition with other countries.

I would like to reaffirm what I was trying to say at the beginning, the fact that in terms of Health for All, we have not yet made the initial conceptualization that would essentially relate to the way in which today's contributions to knowledge, going from the most basic biology to the most applied management, can involve institutions of higher education. Then we should not think that once this conceptualization will have been achieved, it will stay there forever.

There is a task of not just maintenance, but of reconceptualizing all the time. I, for instance, feel that if we leave it to the computer scientists, who have been mentioned by our friend here, we may end up with programs that will not be very friendly to interdisciplinary discourse. That may turn out to be one of the most serious problems.

My concern here, really, is that I think the conceptualization, at least from what I can figure out, has not yet been made. More than that, I think there is a problem of career responsibility that faculties have to commit to if they can be expected to continue to work in these fields. Otherwise, we will only have very sporadic support.

For that reason, one of the areas in which, just like the open university in England has shown, the turf is not as much occupied is the area of continuing education. It offers a unique opportunity in terms of education for health for adults all over the globe and, also, for faculties in different countries and at different levels.

I am in admiration for what you have achieved, but I do feel that we ought not to underestimate the need for intellectual formulation that will really do justice to what it takes today to have a meaningful and effective health system.

DR. BEERING: Let me add that I very much appreciate those sentiments. I would hope that we would not fall into the trap of having a single model to try to answer this very complicated set of issues. One of the great strengths of this country over the years has been that we have fostered diversity.

DR. GRAHAM: Time dictates that our exchange be ended, which happily leaves us with both the appearance and the fact of a vigorous and unfinished debate.

SECOND SESSION

ELABORATIONS ON HEALTH FOR ALL BY THE YEAR 2000

O.O. Akinkugbe
David Hamburg

RURAL HEALTH PROGRAMS ALONG THE U.S.-MEXICAN BORDER

Moderators - Gerald Rosenthal and David Banta

University of Texas Rural Health Program
Presenter - Yvonne Russell
Commentor - Gregory Miles

University of Arizona Rural Health Program
Presenter - Andrew Nichols
Commentor - Margaret Aguwa

DR. ROBBINS: I do want to take just two minutes to call on Dr. Hamburg and Dr. Akinkugbe for a couple of brief comments before we start the workshop. A number of people have commented to me that they still would like a little better understanding of what we really mean by Health for All by the Year 2000 (HFA/2000).

Since we have such distinguished participants from HFA/2000, I have asked the two, Dr. Akinkugbe and Dr. Hamburg, if they would make some comments to help us out.

ELABORATION OF HEALTH FOR ALL BY THE YEAR 2000

O. O. Akinkugbe

DR. AKINKUGBE: I think the story of HFA must begin with an overview of what the World Health Organization (WHO) has, since its inception, been trying to achieve. I always look at HFA as an exercise in leadership in terms of identifying the present problems in health at a global level.

Until relatively recently, the WHO had been overly concerned with the problem of prevention and public health. Its main emphasis had been that of prevention of infectious diseases and devising ways to tackle some of the major health problems. About ten years ago, it became quite obvious that the pattern of health all over the world was changing, that there needed to be a new impetus to alert the world's populations to the need to harness all their resources for health in a meaningful way, with the affluent and advantaged trying as much as possible to help the less privileged.

This was the sense of mission that gripped Dr. Mahler and his team in Geneva--to try and generate a kind of program which member states could count on to use to boost their own health programs in their various settings. Hence it was that this definition of health as being a state of complete physical and mental well-being came about. I think that the various member nations were very grateful for this kind of opportunity to put into perspective their whole notion of what they mean by health in their countries and how much they could be doing for their own people.

Of course, these things take a bit of time to crystallize in a world body, such as the WHO, with a vast and varied array of missions and different perspectives of what health is. There is always the problem of how health care should relate to other forms of social services. The

remarkable thing has been that in all this group of nations there has been this common thread of agreement that the HFA movement should be something that each nation should hang on to as a primary objective. The year 2000 was a convenient mile post to use, not so much as a kind of philosopher's stone, but a kind of Utopia that member states, however rich or poor, can hang on to and use as a kind of target date.

It soon became obvious that for this concept to be airborne, it was not enough just to indulge in mere rhetoric in Geneva. We must move on to the nitty-gritty of defining precisely how to set about promoting HFA. This then brought WHO to Alma-Ata. Many of us know what happened there that brought the WHO member states to agree to use primary health care as the main modus operandi, the main engine of implementation of HFA. Once that was done, it was obvious that each nation had to define, within its own confines and resources, how to prosecute HFA, through primary health care.

In the last couple of years, most nations have been trying hard to see how far they can implement the HFA program in their own national health schemes. It has not been too easy for certain countries. In other countries, they moved far ahead. A country, for example, like Thailand understands the philosophy very well and has made very rapid strides in getting this whole concept integrated into its health programs. But there are countries in the less developed world in which this whole concept is still very much on the drawing board.

This is a very general kind of approach to what WHO means by HFA. It is, I think, well to admit that as of January 1, 2000 A.D., that Utopia will not be within the grasp of every nation. It would be idle to pretend that, as of that date, all diseases would be a thing of the past.

As of that date, however, most nations will look back and say that in the past twenty years they have gone this far. They will have recorded some concrete achievements, however modest. This then points the way to further progress, for HFA must not be seen as an end in itself, but as a means to an end.

I would like Dr. Hamburg to supplement this general idea with specifics.

David Hamburg

DR. HAMBURG: I agree with Dr. Akinkugbe. It seems to me the first thing we have to keep in mind is that the WHO is, as far as I can see, the principal symbol of health throughout the world. It has access to every country in the world. Dr. Mahler, since he came to the post, and Dr. Lambo working with him, have been asking themselves how that unique

access and unique symbolism, in terms of health in the world, can be translated into action to improve the health of people everywhere.

HFA is more an orientation than a program. It represents a serious effort to stimulate thinking about health, to focus on health in more or less every country in the world. One has to keep in mind that health had been neglected for a very long time in many countries.

You look at the low status of the ministries of health. The ministries of health, around the world, typically did not have much clout, although they were there and they did something. But they have not been strong in comparison with many other ministries. Neglect of health, or at least the health of large segments of the population, was characteristic of a great many countries, including our own. Although a few people of elite status might have good medical care in every country, very large segments of the population were not getting any appreciable attention, nor was there any planning for serious effort to provide them with health care.

That was key to HFA. It was a political effort to stimulate, primarily, political bodies to consider the health of their people altogether. The question was essentially raised, as was said yesterday, of whether a decent minimum of health care could be provided for everybody.

How could we find out? We could find out, in principle, by stimulating the relatively strong institutions in each country, institutions that would have a chance, at least, to do something about health, were they to focus their attention on it.

WHO had to start where it had a little leverage. It is an intergovernmental organization. It is, in some sense, a club of the ministers of health. It had to begin, I think, with the ministers of health. If the ministers of health were not worked up to do any serious thinking, digging, and planning about the health of their whole populations, who would? So, whatever the infirmities of their ministries, the place to begin was with the ministers of health, and then, to try to reach out to other ministries like education, some of the powerful economic planning ministries, and the like, in due course--and now the universities.

It seems to me that it is part of the concept that what you try to do is to stimulate the interest of, capture the imagination of, elicit some guilt feelings from--whatever--from the relatively strong institutions, to get the strong institutions in each country to focus on health. In some countries, private-sector institutions also have been important and, I predict, will be increasingly important in this effort.

The concept is the same--focus on health. We look for a decent minimum for everybody. We try to mobilize relatively strong institutions

to pay attention to health on a population-based medical model, that is, to think about the whole population of an area or country.

In that framework, you try to assess the needs--what is the specific burden of illness in that country, the nature and scope of the particular diseases they are burdened with, and then, develop the capacities to respond to those particular needs, the capacities in research, education, and application to address our own problems.

Of course, to do that, a good deal of international cooperation would be helpful. Could WHO facilitate the international cooperation to develop that capability in research, education, and application in each country or each region?

Now that kind of orientation, of assessing the needs and developing the capability to address the needs, was reflected in this emphasis on primary health care, this decent minimum for everyone. Primary health care has come to have a strong component of disease prevention and health promotion. Hence, last year's technical discussions on education for health, since that is one of the main thrusts of the disease-prevention/health-promotion approach.

In practice, the focus on primary health care necessarily has, given the terribly short resources, come to focus on disease prevention and health promotion a good deal. It has tended, necessarily, to think about training people who could be adequate to meet local needs to a certain extent, without having the full training of the M.D., or Ph.D., or any elaborate training. The search for modest or intermediate level training of health workers and the questions of how they can be effective has become, of necessity, a sort of major component of the primary health care emphasis.

In the long run, the time scale is clearly decades, not years. It is not a sporadic thing. It is not saying the year 2000 is a bit of magic. Maybe a specific challenge is helpful to have something tangible to show in two decades, but the continuing stimulus for focus on health is not political. It is moral. It is to some extent scientific, as in the tropical disease research program. The real gist of it is sustained attention to health throughout the world. So, it is an orientation, a very constructive orientation, much more than it is a specific program. Gradually, specific programs come to develop within this orientation.

DR. ROBBINS: From the point of view of our meeting here, our concern is, what can the institutions of higher learning contribute to HFA? This is a long, sustained effort. We have obviously laid out some examples of where institutions of higher learning have, in fact, contributed and other ways in which this can be broadly applied. Are there ways that we are not using now and what are the implications for other societies?

I do not think we want to get hung up on Health for All by the Year 2000. It is a good time framework in which to operate, but it is not something that we need to worry about too much as we proceed with our deliberations.

I want to thank our two clarifiers. Now I will turn the meeting over to Dr. Rosenthal, who will moderate the next section of our meeting.

RURAL HEALTH PROGRAMS ALONG THE U.S.-MEXICAN BORDER

Moderators - Gerald Rosenthal, Institute of Medicine and
David Banta, Pan-American Health Organization

DR. ROSENTHAL: If I might take the moderator's privilege, I think it is particularly useful that we begin with a discussion of rural health programs on the U.S.-Mexican border.

There are lots of reasons for this. The last problems to be dealt with in developed countries, for example, coverage and access to care, are the first problems that need to be dealt with in developing countries. Highly mobile populations, lack of continuity of care, rural health problems, and rapid in-migration to the cities are characteristics of both sides of the U.S.-Mexican border.

Although it is probably one of the few borders in the world shared by countries with such radically different economic statuses, the differences are much smaller on the border than 100 miles away from the border. The border represents relatively high economic levels for Mexican municipios and states, and low levels for the U.S. counties.

Culturally, there is an intermix of some consequence. We have talked a lot about culturally appropriate technologies, one of those phrases better left undefined in its general construct. We can talk about what plays in Sheboygan and what does not play in Sheboygan when we talk about specific strategies.

I, myself, have found that area of the world particularly important as a place to learn, because it does not allow you to ignore the differences and the need for cultural integration--I do not mean that to be a patronizing term. We all are limited by our cultural perception in one way or another. I think it is an important place to start, also because it is a long way from Washington and a long way from Mexico City.

DR. ROSENTHAL: The differences in the systems that are represented are much less consequential than the ability to work out local arrangements. There is a kind of pragmatism when you are out there by yourself, which leads into a certain form of innovation not adequately recorded in our own thinking.

I am delighted that we have some presenters today that can speak to that. I know the experiences about which they are speaking are also particularly relevant. Let me now turn and introduce Dr. Yvonne Russell, the first of our two presenters this morning.

She is a person of various competencies and experiences, all of which are germane to this. She is a pediatrician, was a deputy state health officer with responsibilities for migrant care, nursing home care, maternal care, and child care issues.

She has been a professor of pediatrics, Director of the Santa Clara Valley Medical Center in San Jose, and is currently the Assistant Vice President and Associate Dean for Community Affairs at The University of Texas Medical Branch in Galveston.

The University of Texas Rural Health Program

Presentation by Yvonne Russell

DR. RUSSELL: I would like to comment on certain things that were said yesterday and how they were developed in the binational project. As Dr. Laguna said yesterday, there is a need to teach people how to care for themselves and how to get them to health services. We place an emphasis on food, nutrition, safety of water, and sanitation, as well as maternal and child health.

We expect that training community health workers in a community health-education program is an important part of this project, which can be at either at a two-year college level or a lesser level.

Training in health career awareness is necessary in the junior high schools and high schools, on both sides of the border, though maybe at a lower school level in schools on the U.S. side.

Professional education, referring to nursing education, allied health education and continuing education for all professionals, is not accomplished in the usual way, necessarily. We use cassettes and self-instructional materials as very important adjuncts. We have been developing, over a ten-year period, a materials resource center. You have read about the continuation of this center in the proposal and I will not say anymore.

Student retention along the border is a very serious problem. A fifty percent or greater dropout rate occurs in nursing, for example. This is not unique to Texas. This is true all the way from California to Texas. No one knows the reason for it, much less what to do about it. This is a severe concern for all of us.

In Texas, as well as the other states, I am sure, the question of geriatrics arises and not just with Anglos moving to the border. The Hispanics seem to "go home," as it were. I live in a community of 20 percent Hispanics, but over age 65 it drops off to almost nothing. It is said that the Mexican-Americans in our part of Texas go back to the Valley, i.e. "go home," when they retire. We do not really know that that is true, but we do know that there is an increasing population in the border geriatrics component and that we need to look at resources in health for those people.

Hispanic data resources are important because we do not know as much as we would like to know about the health of Mexican Americans. What we do know is from a quite recent study by the Academy of Pediatrics.

I would like to tell you something about the University of Texas Medical Branch that I come from. The question is, "Why is this institution of higher education interested in the border, which is 250 miles away?" John Sealy Hospital in Galveston is the referral hospital for indigent care for the whole State of Texas. A great many of the patients that we see are from along the border and, unlike a project which will be in progress for three years to five years, we have a continuing interest in the border as long as we are the designated hospital and there are indigents along the border.

We have a school of allied health, medical and nursing schools, and a graduate school of biomedical services. We feel that our students need to know more, not just bilingually, but biculturally, about the people who come to us; however, we recognized that just sending people into the border area is not as effective as we desire. Therefore, we have built a network with eight other institutions of higher education along the border: four junior colleges and four universities. Those are the locations in which the projects that you have read about will take place. I particularly want to emphasize the coordination of these institutions. They are all equally important in this project.

This project is one of the ways of looking at Health for All, and not just in educating students. A great many students are providing service in locations like Dr. Zavaleta's. Dr. Zavaleta is from Texas Southmost Community College, a community college and one of the institutions we will be working with, as well as from Su Clinica Familia.

I want to touch briefly on 7 subjects. They are 1) the demography of the border and the University of Texas projection of population; 2) some public health problems that you have read about; 3) the Academy of Pediatrics study, which I believe is the most illuminating to date; 4) what Project Hope has done along the border; 5) what the Area Health Education Centers program (AHEC) built and now will be built upon; 6) what student projects from the University of Texas School of Public Health at Houston have contributed to our knowledge; and 7) a unique study of population genetics in Laredo. If there is time, I will also talk

about what the Border Health Association and the federal U.S. border health initiative have been doing, in particular the Laredo project, which is extraordinary.

We have 2,000 miles of border with Mexico. Four U.S. states adjoin Mexico. Twelve hundred of those miles of border are with Texas. There are twenty-four counties on the U.S. side in this area and twenty-four municipios on the Mexican side. Demographically, ninety-five percent of the population in the U.S. lives in twelve of the counties and 88 percent of the population in Mexico lives in twelve of the municipios. The population is approximately 3.82 million on the U.S. side; there are approximately 2.03 million persons in the twelve Mexican municipios, and that does not include Juarez. You will be struck by the fact that 30 percent of the population is 18 years and under and that 23 percent are women; so we are talking about 53 percent of the population being women or children. This area had a 40 percent increase in population in the ten-year period from 1970 to 1980, whereas the U.S. as a whole had only an 11 percent growth.

In the Texas area, there is no question that poverty is common among the Hispanic populations.

Although it is rather staggering, I want to mention to you that the University of Texas population projection is that 100 million people will have crossed this border on their way north, by the year 2030; this is a political boundary which people cross every day. We really do not distinguish well, necessarily, between those that come across and return daily and those who cross in other modes.

You have read about the public health problems: the communicable diseases; that TB and syphilis are two to three times greater than in the rest of the state along the border; that communicable diseases like hepatitis, which Dr. Rosenthal has already mentioned, amebiasis, typhoid fever, and typhus are two to twenty-seven times more prevalent than in the rest of Texas. Alcohol and drug abuse are 81 percent higher in the poorest county on the border, than the average for the state. Motor vehicle accidents in Texas are pretty staggering; they are 170 percent the national average. When you know that, along the border, they are two times greater than the rest of the state, you know what a severe problem they are. With respect to nutrition, we are talking about socioeconomic deprivation. I have already alluded to the geriatric problems.

The Academy of Pediatrics study was released to the Executive Board of the Academy on January 11, but has not been widely distributed. This study encompassed the entire length of the border. It is divided into six areas, three of them in the Texas-Mexico area. They are: 1) the lower Rio Grande, 2) the mid-Rio Grande, and 3) the El Paso area. The other three areas are Tucson, the Imperial Valley, and San Diego.

This study was done in conjunction with the Robert Wood Johnson Foundation and has specific reports on maternal and child mortality; health utilization and resources; migration for acute hospital admission because there are only three public, general hospitals along the border; and prospects for cooperative efforts.

As Dr. Rosenthal mentioned, David Warner at the LBJ School of Public Affairs in Austin and Bernard Portnoy at U.S.C. in California did these studies and are the co-authors of these reports.

There is considerable detail about programs of health care in Mexico which, to my knowledge, was not readily available before. The important factor that I recall is that when the resources of all agencies in Mexico are combined, they have the capacity to meet less than 55 percent of the health needs along the border.

I want to mention Project Hope to you. Before groups from the University of Texas worked extensively along the border, Project Hope worked at Laredo Junior College from 1969 to 1972, training community aides and health assistants. This was a career-ladder program in which a person could start from high school and become a community aide, go on to be a health assistant, after another full-year program become a qualified LPN, then go back to school for another year and become an R.N. There was also a program of medical technology. In contrast to other post-secondary programs in which one cannot drop out readily and go back, this program, with the ability to proceed along the career ladder, was quite successful.

Similarly, Project Hope was working from 1972 to 1975 in El Paso. At that time there were four allied health programs, including respiratory therapy.

I mention Project Hope because it was the forerunner of the AHEC program in Texas. The AHEC program is really the background upon which the current border project is predicated. The Centers were in existence from 1972 to 1978 and, again, for one year, 1982 to 1983. During the first six years, the population in the area increased 9 percent, while the health personnel increased 35 percent. Of the 2500 people trained in that five-year period in nursing and allied health, 83 percent remained in the Valley. That is our reason for thinking that, with the network of universities along the border, it is possible to train people who will stay in the area to provide services.

As we are an institution of higher education, we are very much concerned with manpower training. The people we are training are offering services in primary care sites. So, we are talking about a dual effect of the education.

It is very difficult to obtain statistics about how many people need to be trained and what the needs are in the Valley or along the border, in Texas in particular. In the AHEC program, the line was drawn from

Corpus Christi to Laredo; often, the line is drawn to include only six or seven counties along the border. In the geographical areas of the AHEC program,
Hispanics were 88 percent in Laredo and 78 percent in the lower Rio Grande Valley; that was through 1977. The 1980 statistics show that, in Laredo, the population is 92 percent Hispanic. So there are more Mexican Americans in the area all the time.

You will notice in the AHEC program that health-career education in high schools was a component which we thought was effective. We are continuing this program in the border project. Continuing education has always been an emphasis. This emphasizes cooperation among the hospitals as well as the educational consortia to which I have referred.

The Laredo Project is a joint project between the University, the Kellogg Foundation, and the local health department. Its purpose is to train interventionists. That word is used deliberately because, in the border area, health education is not a term that is accepted well; so health educators are called interventionists. They are, in essence, health educators.

This is an extraordinary project, because the health educators are all volunteers. They are people who are drawn from the community. They are trained in materials which are made available to them in Spanish, naturally. These materials are about the areas we have talked about--about maternal and child health, nutrition, how to take care of your own body, how to get health services--the kinds of things that Dr. Laguna referred to yesterday. The interventionists go out into the community to schools, to PTAs, to school children, to church groups; any place that people meet, the interventionists go.

It is extremely successful and is very strongly supported by the community. In thinking about this concept for the entire border, it was our thought that this is marvelous, and we are pleased that it works for Laredo, but to think that we are going to have volunteers the entire length of the border in Texas is not very realistic. Therefore, in the proposal for the border project you have read, the community health workers, who are the same as interventionists, would be paid workers. They would be similarly drawn from people in the community, so that we will have people that are trained to talk to their neighbors about the kinds of things that we know that they need to hear.

One of the things that the AHEC was involved with was student projects. This is a list of student projects from the School of Public Health in Houston between 1971 and 1982. Some of these were Ph.D. candidates and others were masters' students who conducted these studies along the border, so that the border is becoming more and more studied.

Our concern has been that there are many different actors along the border and that the people who are working along the border need to get

together to talk to each other instead of working in isolation. I think that one of the things Dr. Zavaleta and I would both agree to is that there are only a few of us who do talk and work together most all the time. More of us who are working along the border need to meet on a continuing basis so that we all know what each other is doing and so that studies like this will do more than line someone's desk drawer.

There is an enormously interesting study in population genetics in Laredo which is, again, very separate from anything else that has been going on. Kenneth Weiss, also at the University of Texas School of Public Health in Houston, has been studying the population of Laredo from 1870 to 1980. He has found that the records in the churches are the most reliable; in fact, they are very precise. He found the records of the deaths of the founder of Laredo and his family. He has been able to connect 100,000 different people over these years into one huge family structure.

His interest in doing this study had to do with cancer and the fact that there might be a higher incidence of cancer of the gall bladder and cancer of the cervix than in other areas. He found that the incidence of cancer is not greater than what would normally be expected.

My point in telling you about this genetic study is that it is an example of what is available to be studied if we would all pull together. Our consortium of institutions of higher education would be open to any one who is working along the border and could be involved in the network.

I think it is fair to say that there are great changes that are occurring along the border--that is true on both sides of the border. You know that the population has increased 40 percent on the U.S. side in the ten years between censuses. It is increasing similarly on the Mexican side. There are enormous unmet health needs. The direct health care programs are few, and I have not said much about those. There are very few public general hospitals. There are three in Texas, and I will not comment about the other states.

We have shared our project with the other three states and have asked if they are interested in doing something similar and, as I think Andy Nichols will comment, needs vary so much from state to state that although we feel the best way for us to meet health needs is by education, elsewhere it may be by direct health care, principally.

Our educational programs in community health work, allied health, and nursing, the health careers, the geriatric center, and continuing education are important, wherever the money comes from. I might mention that it is always a shock to see a budget that comes out of your own institution, such as the one included in your handout. Such budgets are for presentation to possible funding agencies and do not always bear a relationship to reality until such time as there is funding.

I have commented on the need for education, which is great, and I want especially to speak to the need for involvement of local people. Insofar as possible, we all talk to local people in building programs. There is never enough talking to local people. They will always feel that things are being pressed upon them, so that anything that you read about this border project is entirely subject to what local people think about it and what they want to do. That is going to be the true development at the local level.

DR. ROSENTHAL: We turn now to Greg Miles for some initial comments. Greg is a manpower-development specialist, which is one of those great generic titles, and part of the Medex group at the University of Hawaii.

Comment by Gregory Miles, University of Hawaii

MR. MILES: I am really pleased to have the opportunity to comment on the University of Texas at Galveston border project, as I feel it encompasses certain elements which to me indicate the likelihood of success. I would like to point out briefly, several of these elements and comment on them in terms of their generalizability in light of the Medex group's experience in primary health care services development. Then I would like to make some brief comments on the implications which these elements might have for institutions of higher education.

First of all, an element in the border project that I feel is a fundamental indication for success is the fact that a climate of receptivity or a receptive framework, if you will, has been established along the border area. The University of Texas Medical Branch has seven years experience with the AHEC program, which has resulted in affiliations, ties, and commitment on both sides of the border. That will certainly facilitate the binational planning for such a comprehensive project as well as encourage the broad base of support needed to mobilize resources and coordinate project activities.

Our experience at the Medex group indicates that this is perhaps the most important step to achieve early in the process of developing or helping develop primary health care services. Without such a framework, the management systems development needed to support such services will not take place.

The process of establishing such a framework is essentially dialogic in nature and it takes time. It is one that focuses on discussion of long term, development-oriented goals such as institution building, as opposed to specific outputs with limited results that often produce systems that are not sustainable.

The second important element in the border project which adds to the potential for success, I feel, is the planned coordination and cooperation

of the major educational care provider and other institutions concerned with health services and care on both sides of the border. As we all know, a coordinated and cooperative approach will go a long way to help avoid the duplication of services and management support, increase the effectiveness of each participating entity, increase the likelihood of there being adequate resources, and strengthen long-term institutional capacities. In short, I think it will create the kind of dynamic concept of constructive interdependency that I think Dr. Akinkugbe has called for.

One example in the developing world that would exemplify the utility of this concept, I think, exists in Lesotho in South Africa. There, the Lesotho Ministry of Health has strengthened its national primary health care program by integrating village health projects of non-governmental organizations and government-sponsored projects. I think other countries may well benefit from such an approach themselves by making small projects into strong components of countrywide primary health care.

A third noteworthy element in the proposed border project is the existence of an overall manpower plan. As indicated by Dr. Russell, the plan includes not only a career awareness component, but also plans for optimizing training, employment, and utilization of health personnel. With input from the South Texas Health Systems Agency, a number of specific goals have been set for health manpower education in the border region based on the specific needs of the border population.

From the Medex group's experience in manpower development, we have found that the need for an overall plan is crucial. Many countries often train physicians, nurses, other professionals, and technicians without a realistic plan for their most effective employment or for linking peripherally oriented health workers with other health professionals.

We have learned that this isolation of primary health care from other services reduces the effectiveness of all parts of the delivery system. For example, many of us here have seen the unfortunate results of the isolation of community health workers from other personnel and services in the health system, starting with their training and continuing to include their supervision and support.

The system itself must provide an infrastructure that supports program graduates and reinforces training. Dr. Russell's description of the proposed border project also includes a discussion of actual training approaches for health career students.

For example, it is proposed that students have the opportunity to gain practical experience in a community setting in the border area and that students also learn about cultural factors which influence the health of border residents and the health services provided to them. These kinds of training methods, I believe, will prove to be efficient and effective ways of making the training of health personnel relevant to the work they will eventually do in the border region.

If the proposed strengthening of curricula and institutions to prepare health workers, which I believe is part of the border project, is based on a careful self-assessment of the health needs of this area, then the training itself cannot help but be relevant.

The use of effective and efficient training methods, then, is another important element that we in the Medex group have come to view as critical to the development and/or strengthening of primary health-care services. We have found that competency-based training is the most efficient approach to training in primary health care.

The process used by Medex in its prototype training system involves five steps: first, an assessment of community health needs; second, an analysis of the job tasks and constituent competencies needed by health workers to meet those needs; third, the development of learning objectives based on the job analysis; fourth, the development of the instructional program based on the objectives; and, fifth, performance evaluation linked to supervision and continuing education. We see the process as being cyclical and, when carried through carefully, an appropriate means of maintaining relevance in the training and support of health personnel.

A fourth element in the proposed border project is making continuing education an important part of the overall strategy. In fact, the project proposes the development of a new kind of continuing education more suited to the circumstances of the border areas, the kind of continuing education that would allow individual health practitioners to pursue their continuing education needs without requiring large numbers of them to be absent from work at any one time, as is necessary in a conference program kind of continuing education.

The proposed use of tapes and other educational materials will be useful in achieving this more individualized approach to continuing education. Our involvement with the training and support of both mid-level and community-level health workers has revealed that there are a wide variety of means of providing continuing education to the trained worker. We have had experience in using radios on the job, continuing education from supervisors, newsletters, workbooks, district-level seminars, national conferences, and a variety of useful health-oriented publications that can be sent to the health worker.

We see continuing education as being part of the supervisory support structure and that the role of the supervisor is to evaluate the workers' on-the-job performance, both to determine if health needs are being met, as well as to define the continuing education needs of the worker. The results of this on-the-job performance evaluation, then, may be fed back into the process of making initial training relevant through revisions in the curriculum.

In summary, these are some of the elements in the proposed border project that I feel may be generalizable or transferable, based on the experiences of our group: 1) the idea of a receptive framework; 2) the idea of coordinated and cooperative health-sector development that gives an overall manpower development plan; 3) the use of effective and efficient training methods; and 4) the inclusion of continuing education as an important part of the overall strategy.

I have not commented, as yet, on what implications these and other elements in the border project have for other institutions of higher education involved in community health care. I think that if, indeed, Mr. Guy Berjay and his colleagues, as well as Dr. Beering, are correct and institutions of higher education are looking for new ways of interacting with communities, then I think it is more a matter of institutional mission.

For example, in the case of the University of Texas Medical Branch at Galveston, they have defined their mission as being educational, that is, they believe they can have a more profound impact through the educational process than, say, through direct services or research. Other institutions might approach the border area health situation differently.

On the other hand, if institutions of higher education are not looking for new ways of interacting with communities, then perhaps it is a matter of the communities themselves, their abilities to articulate their needs and to define how such institutions might help meet those needs that will get the institutions involved. For, in the final analysis, it is not a question of the need for institutional involvement, but, rather, the timely recognition of a role to play.

Discussion

DR. ROSENTHAL: I would like to suggest, perhaps, Dr. Laguna, that you might want to comment, after the next presentation, in terms of the relevance of the two programs, and Tony, you also, because there you have direct experience in these projects as they stand.

I do want to raise one quick question. The border, even in Texas, is a lot of different kinds of places and a lot of different kinds of cultures. Because I think it is directly germane, are there some indications that what plays in Laredo does not play in Brownsville, and what plays there does not play in Eagle Pass, for example? Is there some sense that there are basic characteristics in terms of the size of the communities and their isolation that suggest different strategies?

DR. RUSSELL: Yes, that is true and that is why we are working with different institutions in different locations. I made the comment about

the need to be sure that local people are involved, so that these differences are recognized and taken into consideration.

DR. BOSCH: In relation to the involvement of local people, are there any community organizations in the area who themselves are concentrating on the health issues and have the funds to run programs?

DR. RUSSELL: The answer is yes, to a limited degree. For example, in Brownsville and in the Rio Grande Valley there is a group called Valley Interface, which has an extreme interest in health care, but does not happen to have the funds. Whereas Dr. Zavaleta is involved with Su Clinica, which is a neighborhood health center composed of many people who have the interest and also have funds. It varies from place to place, but there is less in terms of having the interest and the funds de novo than one would hope for.

DR. HASSOUNA: First of all, I would like to say how much I agree with you, Dr. Rosenthal, about the fact that this presentation on the border case is so timely for consideration. I think as a model of bicultural and binational cooperation it has been elucidated very well by the U.S. side as something that we should consider.

I would just like to bring our attention back to the fact that both health and education are powerful instruments of national, political, social, and cultural policy. We must remember this in our efforts in our remaining time as we look at the roles of U.S. institutions of higher learning in promoting community health care. It is critical for us to try to understand what those national policies are if we are to help effectively. We need to see, and see very clearly, how power is distributed in different societies where we would wish to be involved in helping the universities and the governmental and non-governmental groups involved in health planning and in health care delivery.

It is my experience that institutions of higher education in many financially poor countries are in very, very difficult positions these days. They face the continued task of implementing a national policy commitment to provide universal free access to education. Often this commitment is from elementary through Ph.D. level, and though it is a nice idea and, of course, contributes toward social equity, it is also very costly.

Similarly, the health-care institutions are faced with the implementation of the same type of social policy decision, that free or near-free access to health care be provided to all. The kinds of issues that one faces in many developing countries that are financially poor are very, very serious and difficult challenges. Trying to bridge the gap between the institutions wishing to provide manpower and technical expertise becomes a very costly and critical effort.

I am afraid I did not understand where the funding--the principal sources of funding--for the efforts in the binational program came from.

DR. RUSSELL: The funding from AHEC came out of the Department of Health and Human Services. I am not sure where funding came from for the project which was sponsored by Project Hope. Currently, both Project Hope and the University of Texas are talking to HHS about funding. It is our expectation that all four states along the border will offer legislation for funding of border projects. All the legislators have responded favorably to that. That goes along with what you said about national policy and the expenditure of funds for the priorities that countries believe are important.

DR. ROSENTHAL: I will turn the Chair over to Dr. Dave Banta, who is the Deputy Director of the Pan American Health Organization.

DR. BANTA: As you know from the schedule, we are now going to hear from Dr. Andy Nichols. For several years, as a member of the Physicians Forum and a member of the Board of Directors of the Physicians Forum, I had the impression that all progressive physicians in the United States lived in New York City. We looked down the list of the Board of Directors--New York, New York, New York--but as you came to the bottom you would find Andy Nichols, Tucson, Arizona.

For years I used to wonder who this physician was who was out doing good things in Arizona and wondering what he was doing. Finally, I am going to hear in some systematic way what Andy has been doing in Arizona since 1970.

Andy is a physician with boards in both preventive medicine and family medicine and an M.P.H. from Harvard. He spent two years with the Peace Corps in Peru and, I guess I mentioned, has been in Arizona in the Department of Community and Family Medicine since 1970. He has, despite all of this, lived on the East Coast and actually had a short foray in Washington as a Robert Wood Johnson Foundation Health Policy Fellow at the Institute of Medicine. Andy?

University of Arizona Rural Health Program

Presentation by Andrew Nichols

DR. NICHOLS: The outline is in three parts. First, a brief introduction, and then an attempt in the body of the talk to answer the six questions asked of each of the presenters and finally, time permitting, a few reflections on the paper that was presented to us as a background document and, also, the discussion last evening.

In terms of the introduction, I was struck by the background paper's comment that these were times of unprecedented challenges and change for both universities and the health sector. Clearly, it has been a time of unprecedented challenge and change in Arizona. Just to give you an example of that, I decided to compare the years 1972 and 1984, a twelve-year span that covers my tenure at the University of Arizona.

I took four areas: primary care, which encompasses the Department of Family and Community Medicine, where I work, and the following three areas for which I have responsibility: prepaid health care, rural health care and, international health.

Primary Care - In 1972, we were adding family medicine to community medicine, one of the smallest departments of the College of Medicine. There was a question about whether there would be any support for this effort in state government or within the medical school, although it was clear that people in the state wanted it. In 1984, the Department of Family and Community Medicine is one of the largest departments in the College of Medicine. It has significant state and grant support, a full role in University Hospital (with admitting privileges, etc.) and satellite clinics throughout the community.

Prepaid Health Care - In 1972, I was responsible, with the Department, for beginning something called Group Health of Arizona, now Pima Care. It began with extreme opposition from the medical community as the first prepaid plan in Southern Arizona. I still bear the scars from that encounter. We started Group Health in the University, but soon had to get it out of the University because it was such a hot topic that no one could touch it for long and survive. Those of you from Texas will appreciate that.

In 1984, we are operating, and I am responsible for, a program called University Family Care. It is a prepaid health program in the University. We currently have just short of 5000 enrollees, both poor and non-poor. We are competing vigorously with the private sector, and openly so. We have an administrative staff of over twenty people, an administrative budget for that program of over $500,000, and a cash flow of over $4 million a year. That is 1984.

Rural health - In 1972, we were exploring work with the newly formed National Health Service Corps. We wrote the first application in Arizona for the Corps with the assistance of two medical students and supported one rural clinic with no staff and justified our work on the basis that any clinic where we worked would provide background for future teaching of medical students.

In 1984, we are operating a full-service rural health office, with a staff of over twenty people. We have our own building, a satellite office in Phoenix, and a budget of over $800,000 a year. Three hundred thousand

dollars of this comes from the state. We have the statewide National Health Service Corps operational contract for Arizona.

International Health - In 1972, we were considering launching a program with Mexico for training medical students. We were offering and defending courses in tropical medicine and international health in the medical school. We were asked frequently, "Why do you teach that in Arizona? There are no tropical diseases here."

In 1984, we have formal ties with Mexico through the Instituto Mexicano de Servicios Social (IMSS). We send eight to ten students per year to Sonora under this program. Two of our medical students are there today. We have proposed a large-scale border health program in association with the American Academy of Family Physicians. We have an active teaching program and commitment to work in other countries and we currently have a project under way in Egypt.

Now, these are just a few of the changes between 1972 and 1984 in one college of medicine on the border. I have spoken only to change in one department and three areas in that department for which I have responsibility--prepaid health care, rural health, and international health. All three are tied together by redefinition of the academic purpose as including social service. The common discipline, I would stress, in relation to the technical paper, for this department and each area and program about which I have spoken, is primary care.

I did have some comments about the relationship of each of the things we are doing to the dual issues of examining our relationship to society and the worldwide economic recession. Perhaps we can come back to that later. I will simply say here that part of the mission and drive behind what the University of Arizona College of Medicine is doing today relates to economic survival.

I am here to discuss just one of the aforementioned University of Arizona programs, rural health, in relation to the integrated discipline of primary care and with regard to the issues of social responsiveness and economic survival. Accordingly, I will mention prepaid health care and international health programs only as they relate to and impinge upon this rural health program. Each makes an interesting story in itself for those of you who have been following the New York Times and other reports about Arizona's alternative Medicaid program called AHCCCS. I wish we had another twenty minutes to deal with that.

Rural Health Office - What are we doing? Feel free, while I talk, to look at the booklet that was distributed to you. It is the 1983 annual report of the Rural Health Office, "Reaching Out to Rural Arizona." The reason it was not sent to you earlier is that it just came off the presses. Although it was well under way, the publication was accelerated as a result of this meeting. In spite of the date that is on it, it came

out Friday afternoon about 5 o'clock--a special effort by the University of Arizona for this workshop.

I will pass a few other documents around while I am talking. I realize that is poor speaking style, but there is not time to do it any other way. This one is to give you an example of what is going on in rural health around the country, a publication which we produced last year in the Rural Health Office. In this study we surveyed all of the state rural health efforts and university rural health efforts we could identify in the United States. You can find out, as you read it, what is wrong about what we said concerning your school.

There are three reasons we chose the name "Rural Health Office." At the time we created it there were other rural health offices operating around the country and the name seemed to be a significant one in relation to what was going on elsewhere. Second, we used the name "Rural Health Office" because it made a statement to us, in the words of the background paper--"reaching the geographic peripheries of our state." And, finally, we chose it for political reasons to assure support in our legislature when other resources were more urban-oriented. In fact, an Office of Primary Care or, in the term being made popular currently by the Institute of Medicine team on this subject, "Community-Oriented Primary Care (COPC)," would have been entirely appropriate to what we are doing. We feel that much of what we do is based around, as I said earlier, primary care.

The justification of much of what has been done by the University of Arizona derives from our status as a land-grant institution. Before last night I had written a little observation, with an exclamation point behind it, about developing a land-grant strategy for the rest of the world. Obviously, last night's discussion precluded that having to be said, so I will pass it by.

But should we not do in health what the College of Agriculture has been doing for years, that is, discover new and better ways of "growing cotton" by doing it--I use cotton because that is what we grow in Arizona--through a program of technical assistance and communication? The "university farm" then becomes not only a university hospital, but university clinics, including rural clinics, and the "Agricultural Extension Service" becomes a rural health office. Again, to quote from the technical paper, "Without a ready and continuous access to field settings in which such matters can be studied and reflected upon, the university is removed from the matters it purports to be committed to." A key statement, I thought, from the paper.

By becoming a service unit for the entire university and receiving designated funding from the legislature to fulfill its mission, the Rural Health Office has the capacity to broker services for many other disciplines and to focus on statewide problems, not disciplines.

Now, I would like to consider the six questions which each presenter was asked to address.

Number One - Targeted Population and Program Objective

The Rural Health Office's focus is on all of Arizona, because we are the only medical school in the state, and, where relevant, on similar populations in places other than Arizona. I remember when New York City had five medical schools and they had to fight for each block of territory. Fortunately, that is not the case in Arizona.

Our interest is in the medically underserved, be they rich or poor, although we have a special emphasis and concern for the poor. This leads us to a particular concern for rural areas, with their greater proportion of poor and underserved, but leads also to inner-city involvement as well. As noted, the Rural Health Office early defined itself as a primary-care office. The operational meaning of this is that primary care became the entry point to or the contact point for the communities in need where we were serving.

Our approach in each area of need is from a primary care perspective. Thus, even if the greatest need is seen to be for environmental health or health education or something like that, we introduce the concept through primary health care. This is what the people want and what the people understand.

Our objective is improved health and improved health care. We believe the latter stands on its own, even if improved health cannot be shown as a direct result. That is a subject which I would like to discuss, but have eliminated for lack of time.

Number Two - Empirical Evidence of Success

One evidence of success of the program is financial support we have received from the University and the state. Our funding has been mentioned previously and I will detail it later.

Other evidences include recognition. The Rural Health staff participates prominently in state and national organizations. Page five of the "Reaching Out" book illustrates some of the places where we participate. We have documented our success in establishing new health care programs through our publications. Some of the publications are listed in that document. As an example of the evidence of success, and this is only by way of example, I received a call two weeks ago from one of the rural county commissioners in the State of Arizona, in which he said, "We're going to Washington to make a presentation. One of your staff has been working closely with us in developing the proposal. Could you send that person with us?" I said, "Unfortunately, we can't, because it's near the end of the year--you all understand that--and our travel budget is depleted." I said, "Could you send her? We'll give her leave

time. We think it's terribly important." Three days later I got a call that the county was sending her to Washington. To me, that is an example of success. It states that they feel it was important enough to have one of our staff members go to Washington on their behalf that they were willing to pay for it.

The National Health Service Corps has recognized the Rural Health Office as the entity with which it wishes to contract for all functions in the State of Arizona. Pages three and four of the annual report outline a little bit of what is being done in that program. The Rural Health Office in Arizona had the first state contract from the federal government in the country; all other state contracts followed that. Ours was initially funded out of the regional office; the rest were funded out of the central office, as ours now is. Other agencies and organizations are coming to recognize, we feel, that something significant is happening in rural health in Arizona.

Number Three - Nature of Services Provided

With regard to the services provided, we will focus on the Rural Health Office as outlined in the report that you are looking at. Services may be described in three basic sections, which are outlined in the report: first, technical assistance and field networking; second, research, demonstration and special projects; and, third, educational programs and institutional relations.

It is not accidental that they encompass the traditional academic triad of service, research, and education. It is also significant that the order in which we have listed them has been reversed. Perhaps a case can be made for units within universities where service is the first priority, with support from research and education. We have contended this for some time at the University of Arizona. A few items of interest about each of our three organizational divisions may be helpful to you.

The First Division - Technical Assistance and Field Networking Division--Examples of the activities carried out in this area include developing the linkage and serving as a community resource. I will pass around examples of publications in each area. They are a "Community Health Resource Handbook," which is made available to communities throughout the state that wish to develop health care facilities, and a "Rural Health Services Directory," which describes the multi-disciplinary services of the University of Arizona which are available to communities and individual providers throughout the state who wish to avail themselves of these opportunities. We are committed to a multidisciplinary approach to problem-solving.

A major function of this division is handling all National Health Service Corps (NHSC) activities, which I mentioned. That includes everything from providing technical assistance to communities expressing an interest in obtaining a NHSC health provider, managing placement of

all NHSC personnel in Arizona, running specialized meetings for the Corps, and serving as project officer for thirteen NHSC sites in Southern Arizona. We have a major responsibility in that area.

Another related function is physician placement. Currently, the Rural Health Office has become the most visible locus for physician placement in Arizona. An example of activities in this area was the November, 1983 placement conference co-sponsored by The Arizona Academy of Family Physicians and the Rural Health Office.

The Second Division - Research and Demonstration and Special Projects Division--This division has been involved in everything from preparation of the large Rural Health Study, which was done for the Arizona Department of Health Services in 1981, to the current preparation of an analysis of manpower needs in Arizona. Also under development, through participation with the assistant director of our Phoenix office, who is a medical geographer--there are not many of those around--is a health manpower atlas for the state.

Other projects include a study of nursing manpower and a status report on rural hospitals in Arizona. The United Community Health Center (UCHC), which is described in the annual report, is our university farm for the moment. It is that site where the Rural Health Office may channel resources to develop improved methods of health-care delivery for a population in need. It is that location where demonstrations in the use of primary care, as a prelude to improved community health, may be conducted.

The basic concept involves bringing together three geographically widely-separated communities, each too small to support a comprehensive health program, into a single organizational and service entity. I would dearly love to take you through the steps that were involved in getting us where we are today, but I will pass that by for the moment and refer you to the proposal being circulated to get some idea of that process.

Still another activity of the research, demonstration, and special projects division, only mentioned previously, is our border health program. In 1981, the Rural Health Office, in conjunction with the National Center for Health Services Research, with the sponsorship of Dr. Rosenthal, put on a Border Health Focused/Research Agenda Development Conference, the proceedings of which have been published and which I will also pass around. Texas was there as well.

Since that time, the border-health efforts of the University have continued and expanded. The current effort is a proposal developed jointly by the University and the Minority Affairs Committee of the American Academy of Family Physicians and is modeled in part on the study of the American Academy of Pediatrics.

That proposal, which calls for identification and networking of health providers along the border, has just been approved as of a few weeks ago by the Board of Directors of the American Academy of Family Physicians. Funding is now being sought to support this effort, at least on a pilot basis, in the Arizona-Sonora border area.

The Third Division - Educational Programs and Institutional Relations Division--This division highlights the continuing commitment of the Rural Health Office to education from a service perspective. An example of this is still another effort just now getting under way which we are calling SAHEC, the Southern Arizona Health Education Center. This will be an Hispanic AHEC centered in Nogales on our Sonora border. As with AHEC, SAHEC, if successful, will bring the educational mission of the University to areas along the U.S.- Mexican border which are at our social and geographic periphery.

Current efforts of the educational programs and institutional relations division include sponsorship of the annual rural health conference, now going into its eleventh year. It is jointly co-sponsored by over a dozen governmental and professional entities in the state. This conference attracts a multidisciplinary audience of over 250 health providers and consumers each year. Other activities of that office and that section, CAN DO, health careers awareness, and so on, are described in the annual report which you have.

Let me return now to the fourth question asked of workshop participants.

Number Four - Organizational and Decision-Making Governance of the Program

The Rural Health Office (RHO) acknowledges the assertion of the technical paper that health care requires full cooperation with and participation by society. One of the first acts after receiving designated public support from the legislature was to form an advisory committee. This committee is broadly based, as you can see by page 16 of the annual report, representing a variety of health and consumer groups in Arizona.

While being firmly rooted in the University of Arizona, the RHO has developed a particularly close working relationship with the Arizona Department of Health Services. That is, if you will, the "Ministry of Health" for the State of Arizona. Our Phoenix satellite office is located in the Arizona Department of Health Services building. We are currently negotiating with the Department to put some of its people in the Rural Health Office in Tucson.

The Rural Health Office participates on the Rural Health Advisory Committee for the Department of Health Services and the Department of Health Services has a representative on the Rural Health Office Advisory

Committee. The rural health study, as I mentioned previously, was sponsored by the Department of Health Services.

Number Five: Financial Support

The State of Arizona currently gives us $310,000 a year; other in-kind state support amounts to about $40,000; the base National Health Service Corps contract was $95,000 this year; supplemental National Health Service Corps contracts include $10,000 for the rural health conference and $10,000 for a Spanish language course for NHSC assignees; a shared services contract with the federal government is for $30,000; a Primary Care Research and Demonstration Grant, now expired, was for $240,000; CAN DO and other projects from the Arizona Department of Education total about $100,000. This makes a grand total of about $835,000, of which $800,000 is in the form of direct grant and state support.

Number Six: Essential Lessons Learned

The basic lesson learned from the program to date is that we believe much of what we have done in rural Arizona is transferable to the developing world. This is due to the fact that much of Arizona is developing itself, at least in the medical sense. Whether this be with native Americans or rural Arizonans, in general, the fact remains that basic community development principles apply throughout the state.

Russ Morgan, sitting on my left, can attest to this in the sense that we took away his assistant director for the National Council of International Health, who had no experience in rural health, but a great deal of experience in international health. She came to Arizona and she has worked out beautifully in our program.

Of particular interest from an international perspective are RHO programs on the Mexican border. Here the mobile border health provider, the United Community Health Center, student preceptorship, and SAHEC programs all have interesting potential applicability in an international setting. Hopefully, better ways will be found to exploit these skills short of full institutional commitment and competency.

I did want to say, by way of reflection, that one way to deal with the apparent conflict which emerged from last evening's presentations by Dr. Bryant and Dr. Beering, both of whom are here, is to visualize an affiliated program status for developing institutions--I am using developing institutions in the same sense as developing countries here--in terms of their capacities for working in the international health marketplace.

Such an arrangement now exists between Purdue University and the University of Arizona, whereby we are sharing on a nutrition project in Egypt. Purdue University, being the more senior university in this respect, initially had the lead role. Now, project leadership is rotated among the participating institutions.

Another inducement, perhaps, would be to have financial incentives for universities that become involved, as was mentioned last evening and which I could only second. The international health bill introduced by Senator Javits in the Senate in 1977, which we worked with over a period of several years, would have done exactly that.

The most important ingredient, however, in any program is the people who work in it. Is it a mission or a program? Is there a commitment to social equity or a technical interest in solving social problems? Last week I went into the Rural Health Office on Rodeo Day, which is a big Arizona-Tucson holiday and everybody was supposed to be home. I found five of our professionals hard at work in the Rural Health Office. I would submit that is because we care and, in caring, we make a difference.

What is the mission of the Rural Health Office? It is better health and health care for rural Arizona. How will this be achieved? Through community participation, beginning with primary care. What do we need to do the job? For starters, we need a Morrill Act, a Hatch Act, and a Smith-Lever Act, both domestic and international. Then watch us go. Then the universities can play their part in HFA/2000.

DR. BANTA: We will start with comments from Dr. Margaret Aguwa, who is Associate Professor in the Department of Family Medicine at the College of Osteopathic Medicine at Michigan State University.

Comment by Margaret Aguwa, Michigan State University

DR. AGUWA: I consider it a privilege and an honor to be invited to this workshop. I find myself being more or less a multiple minority, and I will leave it at that.

We have listened to the discussion from Dr. Nichols and I think it is interesting to recognize the advancements that have happened with the University of Arizona Rural Health Program. Within a twelve-year period of time, there has been tremendous improvement in their health-care services. We have only sixteen years to go before the year 2000 hits, and it is my anticipation that at least there will be similar improvements, if not more, on a global level, in provision of primary health care to people around the world.

I think the Rural Health Office is well coordinated in Arizona; it is well organized under the direction of a very efficient staff. It has many facets and is very interdisciplinary in its approach. The focus is providing better health and better health services to all of Arizona and primarily in the rural areas, in medically underserved areas.

We have the same focus at Michigan State University. We recognize that with the recent recession and with recent unemployment, particularly in the motor industry, that we have a population of medically underserved in Michigan. These people are now coming to clinics where, because of lack of insurance payments, they are medically indigent, but they need the services that we provide.

Michigan State University, founded in 1855, was the prototype for the land-grant universities. It has a one-of-a-kind combination of medical schools, in that there are three medical schools on the Michigan State University campus. The College of Osteopathic Medicine was the first of its kind to be established on a major campus in the United States. The College of Human Medicine and the College of Veterinary Medicine are the other two medical schools that are on the campus of Michigan State. No other university in this country has such a meld of medical education.

The health profession students are a significant population at the campus, with some 2,200 students registered for the doctoral programs in osteopathic medicine, medicine, and veterinary medicine; bachelor and master of science degrees in nursing; and bachelor of science in medical technology. We have a wealth of medical education right on one campus. Several of the basic sciences departments are co-administered by the three medical schools; however, the clinical departments are solely administered by deans of the various medical schools. Michigan State University has a unique position in that there is no base hospital on campus.

The move from the conventional type of medical education as it exists in the other two medical schools in Michigan, Wayne State University and the University of Michigan, was the concept behind the inception of the medical schools at Michigan State. That is, to extend the land-grant concept to health sciences by providing service, education, and research within the same community. This involves the medical students in a lot of community health care.

The medical schools run several community health programs in all parts of Michigan. One of the major ones is the Upper Peninsula Program. A campus was established and the program is run by the College of Human Medicine. The Upper Peninsula of Michigan, as we all know, is a medically underserved area. An important criterion for admission of medical students into the program is their desire and commitment to locate their practices in the Upper Peninsula of Michigan, which is very cold and isolated. Travel is difficult to and from the area. Many people do not like to live there. Those who live there do not have many medical facilities available to them. These factors are taken into consideration during admission processes, so that the students who are willing and have the desire to locate in the Upper Peninsula have the greatest chance of admission into the Upper Peninsula Program. It is a highly successful program of the College of Human Medicine.

The students who attend classes on the campus in East Lansing participate in several community activities also. One of the goals of the medical school is to train primary health care physicians. Data collected from the College of Human Medicine Alumni Office show that 40.3 percent of the graduates in classes from 1970 to 1980 are working in the primary health care field. Forty-one percent of these graduates are practicing in Michigan. No data, however, are available for the graduates of the College of Human Medicine regarding those who are practicing in the rural areas.

The College of Osteopathic Medicine also was founded with the goal of preparing primary health-care physicians qualified to provide high-quality comprehensive health care services to the whole family. One of its major objectives was to graduate students who will become involved in community health activities which emphasize the multitude of community health resources available to the physician, develop cooperation with allied health workers in the community, and have insights into ways in which the interplay of familial, societal, and environmental forces affect the health of individuals.

Data collected from the graduates of the College of Osteopathic Medicine indicate that 74.7 percent of the graduates between 1973, when it graduated its first class, and 1982 were involved in primary health care services. Sixty-five percent are practicing in various communities in Michigan, with 11 percent in areas with populations less than 50,000.

The Department of Family Medicine, of which I am a member, has various community health activities that are operated in the Greater Lansing Area. Several of our faculty members also participate in various international health activities. The method of training our students in community activities include their precepting in departmental clinics and private offices of physicians. Their clinical rotations are through the various community hospitals in Michigan. The students are assigned to inner-city, rural, and suburban clinics for their clinical experience.

Because of Michigan's high agricultural output, our school is involved in a type of a border program. We have a program similar to that of the University of Arizona for migrants who come to Michigan in the summer from Texas, Florida, and Arizona. A student recognized the need for health-care services to these people, so two migrant clinics were established within a twenty-mile radius of East Lansing to provide health care to the migrants. The clinics are operated only in the summer for the migrants and semi-migrant populations that come to our area.

In the Michigan migrant population, we find disease profiles and health problems comparable to those which exist in Arizona's migrant population. There are nutritional deficiencies, chronic degenerative diseases, teen-age pregnancies, farm accidents, and environmental and occupational health problems, to name a few. We also find that cultural

and traditional practices tend to be similar to those of the patients that use the border program in Arizona.

The department operates a permanent clinic at Cristo Rey in North Lansing. It is a predominantly Hispanic area. Most primary health care services are also provided to these patients in this particular clinic. Medicaid patients are not encouraged to use the services in the migrant clinics because there is no continuity of care on a yearly basis. For that reason, they are diverted to the Cristo Rey Clinic.

Because of a need to have medical services for the indigent of Ingham County in Lansing, the County Health Department subcontracted with the University to provide primary health care services to the people in the county. We are finding an increase in patient registration because of financial exigencies that exist in Michigan.

The Department runs an alcohol-treament program. We know that because of farm problems and unemployment that there is an increase in alcohol problems with the people. There is an alcohol detoxification program run in conjunction with a local hospital in Lansing.

Michigan State University, as you know, is internationally known. The Institute of International Agriculture is located on the campus of Michigan State. In the international arena, the agricultural projects that the University runs have developed a strong reputation for the school. We find that health is not in isolation by itself. There are so many areas that impact on the health of people around the world, especially the third-world countries. Various programs which are health related, such as human ecology and food science, are part of the international programs.

The Bean-Cowpea collaborative research support program is a multinational, multi-institutional program that is headquartered at Michigan State University. This program is to help develop more nutritious weaning foods for children in Africa. The Sudan Project is also a multinational, multi-institutional project that is geared towards eradication of onchocerciasis and schistosomiasis in the Sudan Basin.

The three medical schools at Michigan State have academic and service linkages with universities around the world, particularly in the third-world countries. Recently, Michigan State developed a sister relationship with a province in China. Michigan State wants to develop linkages and sister relationships with other needy third world countries (LDCs), in areas where its expertise and technical support can be of benefit to the people of those areas.

It is important to note that Michigan State used the land-grant concept as the basis for the development of the University of Nigeria in Nsukka in 1960. This was the first university in Nigeria to grant its own degrees. The degrees that had been granted from the University of Ibadan

were through affiliation and association with Oxford University. The University of Nigeria began agricultural extension programs in Nigeria. Women's cooperatives and other extramural activities were also developed through this university.

We can see that, as Dr. Nichols mentioned in his closing, the land-grant concept in agriculture can be transferred to the health fields. Michigan State has also shown it is possible to transfer the mechanism of health for the community from the universities in the United States to universities in the LDCs. People in the LDCs have known and have had concepts in community development in working hand-in-hand with each other, and this concept would not be a new one to them because there is the need, and I think that people in the third world countries will be agreeable to participating in activities that would be of benefit to them.

Discussion

DR. BANTA: I suggest that we follow Jerry Rosenthal's suggestion to link these two presentations. If there are comments, it would be well if they related to both projects. Of course, specific questions can go to either, although I would like to direct the first to Andy Nichols. Then I would like to give Dr. Laguna and Dr. Zavaleta a chance to comment or question.

My initial comment concerns private discussions I have heard at this conference. What I find is a degree of skepticism that universities really want to be involved in community health problems, and these comments are not coming out publicly in the discussion, which is interesting. That is, individuals are saying to me, do the universities really want to grapple with issues concerned with Health for All? They tend to hide behind academic freedom, the importance of basic research, and so forth, and I must say, as a product myself of two universities not noted for community service, Duke University and Harvard University, I perhaps have a bit of a jaundiced view myself.

On the other hand, I am impressed that in this country a number of public universities such as state universities have really become very much involved in community health problems. Perhaps this is because of pressure from the state legislatures; perhaps it is because of the ready availability of money, and perhaps I am wrong, but at least my observation is that the public universities do have more involvement in community health problems than similar private institutions.

This brings up another problem, that is the problem of state politics and inappropriate pressures. So I wonder, Andy, if you would say a bit more--and also Dr. Russell, if you feel so inclined--about your relationship to the state legislature and the state health establishment. Have you used these kinds of political pressures, have they brought inappropriate pressures on the university, or have they been a factor at all?

DR. NICHOLS: Dave, asking if we would be interested in becoming more involved in community service is a little bit like asking is the Pope Catholic. Yes, we are very much interested in becoming involved at the University of Arizona. I think that several things need to be considered. One is, if programs can be identified and created which will give leverage to those people in the institutions who wish to become involved in community service, it greatly strengthens our hands.

I was talking to someone the other day at the University who is involved in Indian health affairs on the Papago Reservation. He said that suddenly his office has gotten a great deal more attention from the University since the "Desertron" project was first suggested. The Desertron project, as I understand it, is a multi-billion dollar nuclear cyclotron that will have to go under Papago land, so now the University is extremely interested in anything the Papagos want. I would suggest that to the degree we can be leveraged, we will be effective. There are always people in the universities who want to become involved in community service projects.

We walked a very perilous path with our own legislature when we did two things simultaneously. One, we ran a rural health bill, and for those of you who deal with universities, particularly presidents like Dr. Beering, you realize that when faculty members become involved in running bills through the legislature, it becomes tricky business. At the same time, we were working for a decision package to support our Rural Health Office. Fortunately, the rural health bill catalyzed the decision package and we got our money through the University structure and were able to survive the process.

Without a doubt, there are cases where pressure from the legislature for performance has been generated from within the University by those who are interested. University personnel may then turn around and respond to the overtures.

DR. BANTA: To the pressure you generated.

DR. NICHOLS: I would suggest that that is one way in which universities can operate. I would only ask the decision-makers and the people who disperse the money--I do not think Dr. Graham is sitting in the room today--to help those of us who want to become more effective by leveraging our efforts within the institution.

DR. RUSSELL: I think there is part of the question that has not been addressed, and that is the relationship between universities and physicians in practice. We are talking about health care, yet the word "physician" has not yet been mentioned, I have noticed, except when you were talking about your direct health-care programs in Arizona. I specifically did not mention them because of the fact that there is a very low ratio of primary-care physicians to patients in the border area in Texas.

There is no doubt about the fact that when a university is involved in primary care and community health care in an area where there are physicians in private practice, there is always going to be conflict. The question is how to resolve that conflict and work well together.

When we first began to work along the border, we had a mandate from AHEC to place 10 percent of our medical students in the Valley only. That meant taking forty medical students at any one time, when there is a ratio of one physician to 4,500 patients in some of those counties. We would have overwhelmed that area, so that was something that we could not do.

That is one of the reasons that we are concentrating on nursing and allied health, because we cannot deal with this issue at this time. It can be dealt with in terms of an elective issue. I would agree with Andy Nichols in terms of being interested in community health as a state institution which produces physicians who are going to go out into the community. Our way of dealing with community health is what I have said, through education.

DR. BANTA: Dr. Laguna, would you like to comment?

DR. LAGUNA: Yes, thank you. I would like to comment on some of the points raised by Dr. Russell. First of all, I would like to congratulate her and her group. This paper is extremely good and comprehensive and could serve as a starting point for future research on the border.

One thing that she said is that in Mexico we have sort of a multi-institutional approach to health care, and that is right. Maybe that is the clue to our understanding of the meaning of this Health for All by the Year 2000.

We have three groups of people in Mexico. One is the group of rich people--just like every place else in the world, rich people who can afford to pay for private services at any level. Then we have the workers, who have a social security basis so they can get anything they need, because they are provided for through the social security system. Then we have what we call the "open population," that is people who are jobless or have part-time jobs, who are sort on the far sides of the society. You never know what they do for a living. This open population is what we really want to take care of from the point of view of Health for All by the Year 2000.

We do not focus on the health problems of rich people or workers, even though we accept that they have lots of health problems--everybody has health problems. We cannot deal with problems related to their life-style, contamination, pollution, whatever it is, the social, psychological, and environmental problems. We do not provide care for rich people or workers, because they get health care services out of their richness or the fact that they are in a job.

We try to restrict ourselves just to the open population that has no access to medical care or health care whatsoever. For the open population, we have to provide the essentials. We do not call this the minimum, because it is very difficult to define what is a minimum. We try to fulfill their basic needs. That is the way we approach it.

Another point that I would like to comment on in Dr. Russell's work is the importance of coordinating the work in both countries. We have listened to a very nice piece of work in relation to the Texas side of the border, but on the other side of the border there is no such thing. How can you deal with a border if you are only dealing with one side of the border? Mexico does not have this knowledge; we do not have the information. You have to deal with both sides. If we are speaking about the border, either we have the information from both sides or we are just playing a kind of a game. It is sort of a psychedelic situation. Either we get a commitment from the Mexican side of the border, or there is no such thing as a border project.

There is another problem in Mexico. Maybe you cannot understand this situation because of your organization in this country, but in Mexico the federal government is very, very strong and state governments are very, very weak. Everything that has to be done must come from the center, from Mexico City, from the President of Mexico. If we do not commit the central government to action on the border, we will not get anywhere. The activities coming from the local governments, from the little towns or big towns on the border, mean nothing if they do not have the approval, the commitment, certainly the money, from the federal government to push them along.

Then there is something also psychedelic in some of Dr. Russell's data. She said the Laredo population is a rather stable population, has been there from time immemorial to today and, at the same time, there is this population going across the border. That means there are two populations, one very stable that does not move--it is born and dies there--then another population going back and forth. We do not know what kind of population that is. They work on the other side of the border. They are just the poorest workers. What is the meaning of that?

This tricky word of "minority"--how can a minority be 85 percent of the population? There must be some other meaning of "minority." Maybe they are a minority concerning their financial needs or cultural level, or something, but that is a tricky thing over there.

If we go back to the Mexican counterpart concerning these factors, we have access to health care if we are rich or if we have a job. I understand that most Mexicans staying in the States or going there for a while--some of them go for a week or for an agricultural season--all of them have work. That is a well-recognized fact. Every Mexican in the border states has got work. They are not there jobless. And if you have

a job here in the States, does that mean you have access to health care just because you are a worker?

So I would like to ask Dr. Russell, is it possible that a worker, a Mexican worker--one of these Hispanics, as you call them--can have work and still have no access to health care? Is it possible? In that case, it is not a matter of equity of access. It is a matter of maybe a lack of interest on the part of the employer to provide them with what they have a right to expect. I would like very much to know what is going on in that aspect, because if they have a job, they should have access to some kind of health care.

And then something related to the universities. In our country, and maybe I could say that this could be applied to the whole of the universities in developing countries, our universities recently have become involved in these community things. I think that is because of the social pressure.

Individuals in our countries know that the only way they can step up the ladder of social success is through the education provided in the universities. That is why they try to enter the university at any cost whatsoever. They will sell their grandmothers, if necessary, to enter the university because they know that is the only way to step up the social ladder.

If you go deep inside their souls, and even in the faculty, you cannot recognize in them a legitimate interest in becoming involved in professional activities because of the importance of doing professional work. They just want to get a title and through the title get a social position. That makes all the difference between the university considered as a social body to promote research, education, and what not, and the university as just a simple tool of society to step up the social ladder.

In that case, it is very difficult for us in our country to promote this community activity, because everybody wants to become a professional; everybody wants to become a physician. We are turning out nowadays in Mexico something like 15,000 physicians a year, although they know and we know, everybody knows, there is only room for about 3000 physicians to get jobs to do adequate work.

In the universities, we do not feel the social pressure of students trying to enter the university for this sort of half, in-between, clinical, or auxiliary level. They are not interested in joining in the effort for community work because that does not do a thing for them. They want to become physicians; they want to become doctors; that is what they want. It is very difficult for us to find justification for the role of the universities committing themselves for this sort of job because our clientele is not prone to get involved in community work. They want to become doctors, or dentists, or some other profession.

When the university is involved in community work, most of the time it is because that is a way they can put to work some of the students in some particular aspect of health care, but not because it is a permanent commitment. The commitment is for while the student is in school, maybe while they are in what we call social service, that is, one year of work in the community setting. But when they end their undergraduate period and they have their social service finished, they forget about that. They try to enter in a common medical residency. For the university it is very difficult to try to hold them and put them to work on a steady and permanent basis in that sort of community work.

DR. BANTA: Can I get a brief comment from Dr. Zavaleta?

DR. ZAVALETA: Very brief. There are a couple of points I would like to address. I will have my chance this afternoon.

First, I would like to say that providing health care in a continuing health care delivery system in the lower border area with illegal aliens or undocumented workers is clearly a can of worms; it is something that we struggle with every day.

For those of us who look at the border holistically, who do not recognize the creek as a barrier to health, we see no reason that there should not be a continuity of care, but at places like Su Clinica Familia, where we are funded by the federal government, we are not allowed at all to provide health care knowingly with federal dollars to illegal aliens. And so it becomes a very serious problem.

Second, university involvement in the community is not always simple. As was pointed out by Dr. Russell, the lower Rio Grande Valley is at least 350 miles from Houston, 350 miles from Austin, 250 miles from San Antonio and the Health Science Center there. Over the course of the years, at least in the last fifteen years, we have been innundated by graduate students and research projects of all manner.

Rarely, if ever, do we see the final results of these studies and rarely, if ever, are any of the findings ever presented to us so that we might, in fact, apply or implement these things in a practical way in terms of improving health care and health care delivery systems in our areas. I represent the local people, I suppose, and there is little communication between the local people and the university researchers.

Concerning the politics of funding--for all practical purposes, the State of Texas and the United States of America ends at a line drawn from Corpus Christi to Laredo, Texas. Everything south of there to the creek is no-man's land. We have to fight tooth and nail for every dollar, pitifully few, that we have received over the course of time. As a result, there is very little health care delivery. The health status, of course, is well documented in terms of its poor condition in that area.

I think that, finally, there are many borders. It needs to be pointed out that there is no single U.S.-Mexican border. The border area can be divided up into at least four or five different, very identifiable segments with their own demographic and cultural realities. The example of Arizona is very different from the Chula Vista area, which is still different from the lower Rio Grande Valley of Texas, which is different from Del Rio and that area. Thank you.

DR. BANTA: Dr. Russell, would you like to make a brief closing comment?

DR. RUSSELL: Yes, I would like to respond to Dr. Laguna. I think his word "psychedelic" is a very good choice of a word. Indeed, the population is psychedelic. There is a core in Laredo that has been there for a long time and then there is this enormous back-and-forth population as well. But there are things to be learned from that stable population about the health of the people in the area as well as the migrant population.

The question about workers' health care is a critical one. Fifty percent of the people in the border area are below the poverty level, but you told me a story that our President said to your President, "All the Mexican people who come north of the border work." Yes, they do work. They work in agriculture, but they make such low amounts of money that they are still below the poverty level. Health care insurance is not provided for by their employers in many or most cases.

With respect to the social ladder that you commented about in the university--although we may have bilingual programs, bicultural programs are much harder to achieve. We would agree with you that we cannot say what you should do on your side of the border and that the problems on our side of the border cannot be solved unless we do things together. It must be a binational project.

THIRD SESSION

WORKING WITH UNIVERSITIES OUTSIDE THE U.S.

Moderator - Mack Lipkin

Boston University - Suez Canal University Program
Presenter - William Bicknell
Commentor - John Laidlaw

City University of New York Urban and Rural Programs
Presenter - Samuel Bosch
Commentor - William Reinke

DR. LIPKIN: The first hour of the next two will be devoted to U.S. institutions of higher education working with institutions outside the U.S.

We are going to start off with Dr. William Bicknell, whose background is quite interesting. He is a physician. He was medical director of the Job Corps, staff physician with the Peace Corps and the United Mine Workers, commissioner of health in Massachusetts, and is currently director of the Office of Special Health Programs of the Health Policy Institute and professor of Public Health at Boston University. He is going to speak to us about their most exciting program in Egypt.

Boston University - Suez Canal University Program

Presentation by William Bicknell

DR. BICKNELL: Thank you very much. It is a pleasure to be here. I do think there are many applications of the Peace Corps experiences as well as the OEO neighborhood health center experiences that are applicable overseas. We have learned a tremendous amount.

One of the benefits of the kinds of cooperation that we have been talking about this morning and yesterday is that we have seen that there is a great deal for us in the States to learn, e.g., about organization and delivery of services and using scarce resources wisely. We bring back to the U.S. a great deal as we seek to work together with colleagues from overseas.

Just a diversion--the organization of the conference, it seems to me, particularly with what seems like rather short notice, is outstanding, and I know the staff must have put in a tremendous amount of work. They are always kind of silent, unsung heroes. It has been very impressive.

What I would like to talk about primarily is the Suez Canal University-Boston University experience in medical education and health services. I will primarily focus on that. Briefly, I will discuss one other program of quite a different nature, in which our university was involved in short-term training of individuals from the developing world. I will not discuss another large program many of you may know about, strengthening health delivery systems in West Africa, a project which is a joint USAID-B.U.-WHO program.

At Ismailia there is a multi-province program medical school covering two "gouvernorates" (states) and the entire Sinai, now divided into Sinai North and Sinai South. The school has not only the responsibility for educating physicians for primary care in those areas, but substantial and now legal responsibility for aspects of service delivery.

How did our collaboration begin? It was not formalized; it was not planned. It was an accident. It was truly happenstance. It happened that some people dropped by Boston and we dropped by Cairo. A couple of the potential principals hit it off rather well, and the Egyptians had, as will become clear, a very sound, thoughtful idea.

It was the right country at the right time and the right area of the country. This area, recently devastated by war, is being resettled. There is heavy in-migration and heavy interest in investment. The U.S. has had a heavy investment commitment by virtue of the Camp David accords. There was considerable willingness for all parties to be flexible.

Now the idea was Egyptian. I think that is extremely important. It is not something developed through the usual project-development process. It was substantially developed by the time we kind of happened on to it. Some of us may have contributed to the refinement of it, but the basic idea was and remains Egyptian. And it is a sound one. It had to be fairly sound, because selling a medical school to AID is a hard thing to do. One may question why one should do it.

What are some of the essentials of the program? Underneath it all is a community orientation. The term that was originally used was "meeting basic health needs." The Suez Canal University (SCU) Faculty of Medicine felt a relevant curriculum was essential.

There was a conference in early 1978--our collaboration began about four or five months after that--which spoke to inadequacies in Egyptian medical education--irrelevant curriculum, specialty orientation, a great schism between the university and the community, gigantic classes, etc. The SCU Medical School is designed to address all of those.

It was initially unclear exactly what would need to be changed, but all felt a new curriculum, in content and in style, was needed. There was a profound belief on the part of the founding Dean and Vice Dean, a husband-and-wife team, Dr. Fohair Nooman and Dr. Esmat Ezzat, that the process of education in Egypt, not just medical education but high school and before, was a flawed process. That belief led to their attachment to the McMaster approach of problem-based learning and its adaptation to the Egyptian scene. The desirability of small class size speaks for itself.

Affordable medicine really has come on very strongly as an objective. Physicians have to be trained to practice within the GNP available in the country, integrating education and service, using existing hospitals and clinics, particularly clinics for teaching. At present, virtually every

rural and urban clinic is a teaching site. Medical students are in the clinics--I am not sure the first day--but they are in the clinics the first week of medical school. There is, as yet, no teaching hospital. There is a little wavering on that, but it is still a solid five years away. If you can establish the basic principles and a basic curriculum and get a cadre of devoted faculty that are committed to the idea of the school, it may be that the teaching hospital will not be excessively dangerous as it comes on line ten to twelve years after the founding of the school. We will have to wait and see on that.

Why a new medical school? Well, that is a good question. Egypt probably has, if not too many physicians, enough. Certainly there is a plethora of medical schools, and there is a shortage of money, in spite of foreign assistance, etc. The real thought was that there is not an auxiliary health worker alternative such as in sub-Saharan Africa--no polyvalent auxiliary such as the nurse-practitioner P.A. Nobody felt that was a viable alternative in the Egyptian setting. They really needed a cadre of physicians who could participate in delivering a new kind of service. To do that, a new kind of medical education was required. It was not possible to effect such changes in the existing schools. Cairo has a thousand or more students per class.

The Suez-Sinai area was a priority development area. Physicians, more so in Egypt than in the United States, influence policy and influence a pattern of resource allocation. They needed a cadre of people committed intellectually to a pattern and style of practice in order to make what was viewed by the Egyptian side as critical reforms in delivering basic health services or primary care.

The impact is directly on service, we hope. There is some evidence for that and beginning evidence of some diffusion elsewhere in the country, but it is too early for much diffusion, because in fact, the school opened its doors only about three years ago. It is only into its third class. And it is still three years from graduation of its first class.

In terms of concept, what are we looking at? We are trying to assist in the development of a medical school which focuses more on primary care, not going too far into environmental issues. The latter is viewed as just a little too hard at this time. The program is certainly getting heavily into the area of overlap of personal and community preventive services, however.

All the undergraduate medical students, are recruited from the area. It is hoped that many of them will stay in the area, and it is hoped that--and we will have to see--that many will stay in primary care or general practice. Among other things, the first general practice or family practice residency program in Egypt was founded there--actually, three were founded. The only one to have any graduates is the one from Suez, and those graduates are now staffing the same clinics that the

undergraduate medical students are going to for their first, second, third, and later clinical experiences.

Now, the institutional goals. It is an unusual situation: The goals, in Arabic, are actually displayed inside the front door of the medical school. The dean and vice dean felt they should be up front where everybody, every morning, sees them as they go to work, and they really work. They have a longer day than the rest of Egypt. People do not leave early and Thursdays are nearly a full day. There is a new atmosphere; there is an enthusiasm; there is an excitement that you often do not find elsewhere.

They are dead serious about delivering care within the limits of national per-capita health expenditure at present and in the foreseeable future and using regional health service facilities as a locus for education and training. And they are doing it.

They are facing some problems which do not concern us as an institution relating to them, but are profound to them. Faculty promotion practices in Egypt advance people who do not devote themselves to the goals of the schools. Those who devote themselves to publication on any subject at all become the senior faculty, who are on the faculty council, who elect the Dean, and can subvert the purpose of the school. The Dean is, right now, engaged in a head-to-head battle with many of his faculty about not promoting those who are not tuned in to the goals and objectives of the school. In fact, he spends some time in court with them on a rather regular basis, a really tough thing.

When I speak about the program, I am talking about the faculty of medicine. The program has USAID assistance, largely, but not exclusively, through Boston University.

People - The principal consultants we have had--and there are a number of them--reflect continuity and, we hope, quality. Everybody who has been involved--and we will get to who they are--whether they are a short-term consultant or going to be on a long-term basis, takes a first trip on an exploratory basis, a mutual test. If they do not like it for any reason, that is the end. If the Egyptian side does not like it, that is the end. We have been very fortunate with continuity of leadership at Suez, at B.U., and USAID. Thus far, none of the principals has changed since 1978 in any of those places.

Their loci may have changed. Some of the people in Washington have gone to Cairo. But the principals have all been the same since the very beginning. That has been of critical importance because there is an understanding of where it has gone, where it is, and where it could and should be going. This has been true in the specific content areas as well as overall project management, to merely illustrate a few.

Those who have been involved from the beginning or virtually the beginning are Ron McCauley and Vic Newfeld from McMaster, the Illinois Center for Educational Development; Ken Bloem in the group practice, who was initially at the Lahey Clinic and now is an associate vice president at B.U.; Jim Plordz and his whole team from the University of Washington, working in infectious disease; and the learning resources group from B.U.

Principles - A real commitment to long-term institution-building. This takes time. From beginning to end it will be about ten years. It will not be done by then, but the foreign assistance aspects of it should be substantially done.

The second principle may seem a little confusing. The project is very important, but not vital. What that means is, if relationships between the countries go awry, will it collapse? We hope not, even if there is a pullout tomorrow. Is it central for our university, for the principal actors at B.U? It is really important, but if it terminates, it will not be the end of anybody's career; it will not be the end of our institution. We can maintain on both sides, a somewhat skeptical look at things. As we are enthusiastic, we can also afford to step back and be skeptical.

The key actors like and respect each other. The dean, Dr. Nooman, is project co-director, as am I. When the project began, I would go over there and stay in his house, often three weeks at a time--I know where the toothbrushes are; I know where the pots and pans are. He, in like manner, knows a great deal about how I live in Boston. That was very important, because almost from the moment of funding, there were conflicts. We really knew each other and liked each other as people and it made conflict-resolution much, much easier.

Funding - There was another thing--there was a great deal of up-front money put up by the fellow I work for, Dick Egdahl, Vice President for Health Affairs. Over $100,000 of B.U. money went into the development of this program over the first year-and-a-half to two years before it had outside funding.

I have never figured out why he put up the bucks. It did not have too great a likelihood of payoff. But that up-front commitment of honest-to-God cash, not just support, but salary, travel money, hotel bills, was very significant and extremely important. The Egyptian side cared for us when we were in Egypt; we cared for them when they were here. That worked very well and was very important.

Multi-institutional - We have not kept the project in-house, by design, from day one. If we can do it from our institution, fine, but let's also look elsewhere. Let's go for the right people. People are very important. The right program instincts are important and maybe there will be an institutional affiliation. Maybe it will be individual. Maybe it will be kind of a quasi-institutional affiliation. I would say quasi-institutional is the way it really tends to come out. Dr. Laidlaw can

comment on that. We really have a close but informal tie with McMaster, with two of the network schools and, also, a growing one with New Mexico, a third network school. One of the successes along the way has been that the Dean is now president of the network and the network meeting next year will be in Ismailia.

Multi-national - We have been able to demonstrate the need and the appropriateness of working outside the U.S. We will see what that means, but I think it has been very important, where it makes sense, to go abroad. We have been able to do that with U.S. money and stay within the law.

It has required flexibility on the part of the people in management positions as well as the program, because there are many shifts and changes in direction, particularly as one is dealing with a program where the prototype is the final product. It is rather like a multi-national fighter, but you do not get a test model. The first is it.

It requires a lot of give-and-take and it requires a very flexible vehicle, that is to say, our particular agreement with AID was an outgrowth of an unsolicited proposal. It is a cooperative agreement. It is a grant-like vehicle which is flexible and can be expanded and contracted according to need, but it does not have many of the inhibiting features of a contract.

Politics - We early decided that with the Egyptian government, Egyptians would do the politicking; in the U.S., the U.S. people do the U.S. politicking. We started to get in trouble with that with people who wanted to diddle around in both arenas when they really could never hope to do that. So straightening that out early was really important and has worked very well.

Joint Activity - We have been jointly in curriculum development, evaluation of medical student performance, development of clinical training sites--from architecture to service improvement and add-ons, a group practice to generate revenue--we will get back to that--and a primary care group practice, more appropriately called a multi-specialty group with inpatient beds.

The basic building is called Building 29. It was part of a bombed-out factory complex. Suez Canal University is a new university, not just the medical school. The university antedates the medical school by two years. The campus was an old textile factory. The goal of the university, in the words of the University President, is to be an integral part of the socio-economic development of the Suez-Sinai area. The shipbuilding faculty speaks to that. The faculty of medicine and its orientation speaks to that.

Who are the participants? Boston, McMaster, Limburg--or Maastricht, most commonly--Illinois, Washington, New Mexico, the Greater Glasgow

Health Board. Why on earth them? Equipment maintenance. They were already in Egypt. They are now training people in equipment maintenance. The Dean recognized early on that we have got to keep the stuff operating.

Also involved are the state health department of Massachusetts, the state laboratory institute for laboratory skills and techniques, and a management group from, oddly enough, Nome, Alaska, an outgrowth of a health center program, with a guy who is a superb manager and a very good teacher of management skills in a practical way.

Architecture from Metcalf and Associates. Again, someone who got her training in primary care in the North Carolina Rural Health Project--Susan Christishore, who was at the United Mine Workers before joining us. She has done the design work for both the medical school and the clinics associated with the program.

The Royal College of Practitioners and B.U. assist with the development of the family practice residency. We have a beginning association with the Tunisian Ministry of Health to try to bring to bear a relevant example, the Mejez-el-bab experience from Tunisia. And there are various other individuals.

There have been other ties in Egypt. For instance, Dr. Badran. He was the Egyptian Minister of Health as the school was getting started; then he went to be President of Cairo University and is now president of the Egyptian equivalent of The National Academy of Sciences.

Dr. Julius Richmond was involved in the initiation of the project, in supporting it in the Joint U.S.-Egypt Working Group in Health, and has been involved as a kind of senior consultant. Most recently, he, in concert with Dr. Dewidar, the Chairman of the Medical Section of the Supreme Council of Universities in Egypt, evaluated the project in a way which was essentially favorable to all parties, but also highlighted some issues we will talk about at the end.

On the Egyptian side there has been a structured, carefully developed relationship not only with ministers, but with a working group at the ministerial and regional levels. Below those levels, within each province, and with individual health centers, relationships are also structured. Most recently, a law--kind of in-between a law and a regulation--has been passed and has given the Ministry of Health (as opposed to the Ministry of Education) the authority over the teaching that goes on in the health centers--which essentially is every health center in Ismailia, Port Said, and Suez and some in the Sinai--and operating authority for the school of medicine. That means the staff cannot be changed without consultation, etc. It really helps make the education and service link a formal and, hopefully, an enduring one.

More recently, there has developed a so-called consortium for the educational component. It is an informal group of people--some of them

you may know. The consortium also includes a group of educational institutions. New Mexico, McMaster, Maastricht, Illinois, and Boston are represented.

The dean has been very bold. Initially, there was hope that there could be some relationship with Be'er Sheva' in Israel. Moshe Prywes visited Ismailia about two years ago and participated in one of the working sessions in terms of planning and evaluating how to increase the community impact. It was a bold and difficult thing for the dean to do. That relationship, because of larger political issues, has not been able to mature and is rather quiescent at the moment.

What are some of the program's successes? A family practice residency program is really working. It is called general practice, there. There are better trained physicians now. It is a short program--two years. It takes existing graduates working in ministry clinics and gives them a Masters Degree and university credentials. It is not usually available to ministry physicians in Egypt. It puts the graduates back in the community and continues their relationship with the parent institution, the faculty of medicine at Suez, and involves them in teaching undergraduate medical students. They have established a department of family practice and have faculty appointments there--a real breakthrough.

They have small classes. The average class is about 65 or 70--the first one was 48, the last one was 74.

There is an infectious disease laboratory, one of the better ones in Egypt; some say the best outside of the U.S. Naval Medical Research Unit (NAMRU) in Cairo. Clinical microbiology and study of infectious diseases are really a necessity in this area.

A new library, and new resource center (audiovisual program) complement the curriculum. The problem-based curriculum has been uniquely successful. One of its benefits has been that it precludes the faculty from teaching the old way. You just cannot give a lecture in a six- or eight-person tutorial. It has been a very useful change agent for the Dean and Vice Dean to use.

In a sense, the students and the Dean and Vice Dean have formed a pincer on the faculty to move them, as they would say, into a new educational mode or milieu. It has worked. The community orientation has been pervasive. The Dean has recently been elected president of the WHO Network that Dr. Akinkugbe described last night. The next network meeting will be in Ismailia next year.

The group practice has been very successful in terms of providing, not just local service credibility, but a practice competitive with private practitioners in the area. It appears to be drawing some patients who may not have been going to private practitioners. It brings service by the faculty to the community in a structured way, allowing the faculty

to be substantially full time and generating revenues which can be used to complement the university budget, which is woefully inadequate.

A serious long-term problem is equipment maintenance and there is some improvement at teaching sites.

Collaboration started in September of 1978, funding started between March and May of 1980. AID resources have been used to gap-fill and help in institutional and capacity development. We hope, by the graduation of the third class between 1987 and 1988, things will be pretty self-sufficient. There are some problems.

Now we are at the peak of growth. There is now a great deal of excitement and euphoria and recognition because there has been tremendous movement. The real thicket of difficulty, I think, is ahead for the school over the next several years as it doubles and triples in size and complexity because of more students, more teaching sites, the need to revise curriculum, the pressing management demands, and the difficulties of working in the public sector in Egypt, where management is not the most common commodity.

We hope we will move to a steady state. That is going to be a very fragile equilibrium with real chronic tension between competing demands. One of the things I think they will have to face is to what degree they will have to modify the basic curriculum approach. Is the luxury of a tutorial of six or eight students justifiable? Can the problem-based approach be supported in a severely resource-constrained environment? If so, to what extent can it be modified to maintain the benefits of it, but allow it to be paid for?

We are at the peak of our kind of resource input now and it will be tapering off.

What is the funding? It has been about a million-and-a-half dollars a year. There is a problem. Public funds from the ministry of education budget are essentially level. However tight you make the school, the operating costs needed to run the school in the way that is minimally necessary to turn out a relevant physician are greater than the public funds budgeted. What can you do to get locally generated revenues so that, hopefully, public funds plus locally generated revenues will equal or exceed the minimum operating costs by the time foreign donor funds go away?

We tried a number of things, for instance, the group practice I described. Apartments were tried. AID picked up some apartments. Rather than just making them available, they are being rented to faculty and that comes into a fund of the Dean's which he can use to pay secretaries, buy spare parts, use for equipment maintenance, etc.

In like manner, wherever there is a revenue-generating potential, we are trying to grab the revenue and put it into a special fund that the Dean can use in a discretionary way to complement the budget, the ministry of education budget.

There are major program issues, such as maintaining and solidifying gains. It is now far more than a house of cards, but a good strong wind could upset things. There is going to be a transition in leadership; the Dean is at the end of his second term and rarely are deans elected for third terms. The president of the university is at the end of his second term; rarely are they appointed for third terms. Management improvements have to be central. Management is not exciting. You know, it is like connective tissue; dull stuff, but it holds you together.

It is much easier to focus on some of the excitement of the curriculum process and not get into the basic management of a complex institution in the public sector. Integrating services and education seems to be on track; improving services is going slower. Basic science has not been a dramatic success. There are not adequate basic science faculties. The training programs have been conducted at Boston and elsewhere, not with AID, but with Egyptian money. The mechanisms for making that relevant were not available years ago. People had to stay in the U.S. for five years and could not go back and forth; there was not the so-called channel system in place at that time which allowed some training in the U.S. with a degree granted in Egypt by an Egyptian university. It had to be the other way.

The issue of supplemental revenue--will there be enough locally generated funds? If there are not, is it possible to develop any kind of trust or endowment, so there could be some income to capture the difference? That is something under discussion at this moment.

What are some of the principles of development strategy? I will summarize those very quickly: have good, locally defined projects; have good people on both sides; take time in development and implementation; underpromise and overdeliver; have serious institutional commitments.

More to the point, or another point, the process is very important. People, politics, and project--good people with sophisticated understanding of the political process, from micro to macro, are far more important than money. Smaller amounts of money would probably have actually been better than the rather large amounts we have been blessed or cursed with.

The programs that I did not talk about, plus the Suez program, have really been devoted to the effective application of knowledge. What we are really talking about is the application of that knowledge to the betterment of living. That is the unifying thrust of the programs our university has been involved with in the developing world. Thank you very much.

DR. LIPKIN: Thank you for packing so much in. It is hard to plan for a happy accident. As chance favors the prepared mind, so perhaps it favors prepared institutions.

Dr. Laidlaw, in commenting on Dr. Bicknell's presentation, I think, is going to speak about one of the attempts to create prepared institutions, as McMaster has been involved in a leadership role in the development of medical curriculua.

Jack is an academic who has come up in a more traditional fashion than many here, having been with George Thorne at Brigham. He is an endocrinologist and was Chairman of the Department of Medicine before becoming Dean at McMaster University Medical School. When I asked him what to say, he said, "Say that I have two daughters," so I did. Jack?

Comment by John Laidlaw, McMaster University Faculty of Health Sciences

DR. LAIDLAW: First, I would like to comment only briefly on Dr. Bicknell's presentation of a very adventurous project--briefly, because I have only indirect experience with McMaster's contribution to this project.

Second, I believe I can make a greater contribution by spending most of my time describing a project with which I am much more familiar, involving cooperative efforts between certain universities in the developing and the developed world. The project is the International Clinical Epidemiology Network.

First of all, my comments on Dr. Bicknell's project. As Dr. Bicknell has pointed out, McMaster's contribution has been principally in the area of education. It has involved Drs. Ron McAuley and Vic Neufeld. Ron used to be chairman of the McMaster University undergraduate medical program. Vic is the present chairman. They have visited the Suez for a couple of weeks or so a couple of times a year over the past three years.

We have brought young faculty members from the Suez Canal Medical School to McMaster to participate in workshops concerned with our somewhat unique form of undergraduate education. We hope that in the future we will take young faculty members for a year or so in the program I am about to describe. We have enjoyed participating very, very much; how much help we have been I will leave others to describe.

If I may go on, I would like to discuss another example of cooperation between universities in the developed and the developing worlds, namely, the International Clinical Epidemiology Network. This program began in 1981. It was the brainchild of Dr. Kerr White. It is supported in large part by the Rockefeller Foundation but also by such agencies as WHO, the

World Bank, the Australian Development Assistance Board, and the International Development and Research Center in Canada.

The purpose of this program is to train bright young members of clinical departments in developing countries in epidemiological concepts and methods in order that they may carry out the following tasks in their own countries: 1) estimate the burden of illness in entire communities; 2) identify environmental, behavioral, and occupational health hazards; 3) establish the effectiveness of preventive, diagnostic, and therapeutic measures; and 4) assess the impact and cost effectiveness of different mixes of resources and services in improving the health and status of populations.

This training is taking place in clinical epidemiology departments in three centers, Newcastle University in Australia, the University of Pennsylvania, and McMaster University in Canada. These three clinical epidemiology training centers have on their staffs biostatisticians, health economists, and epidemiologists who have joint appointments in clinical departments and who also actively practice medicine.

Young clinician-trainees are selected on their merits and on the strength of the support of their university and the ministry of health in their own countries. Preference has been given to full-time appointees in departments of internal medicine, pediatrics, and family medicine.

These young clinicians spend twelve to sixteen months working toward a Masters Degree in the application of the principles and methods of epidemiology to design, measurement, and evaluation in the clinical sphere. They learn the application to research questions of such concepts as causation, bias, clinical measurement, natural history, and disease frequency. But most important, supervised by a designated preceptor, the candidates complete the design of a pertinent research project to be conducted in their own country upon return.

Financial support is available to cover the trainee's tuition, travel, and living expenses. There is a startup grant for the research project he establishes upon return to his own country. Finally, and I think very important, there is support to enable the trainee's preceptor to visit him about a year after completion of the course to consult on his research project and to assess his general progress.

Following completion of their courses, these young clinician-trainees return to their own countries to staff clinical epidemiology units, or CEUs, which will be established in one or more clinical departments in a medical school. It is planned, through this program, to establish four CEUs in each of the major developing areas of the world: the Far East, Middle East and Africa, and Latin America.

Each CEU will be staffed by approximately five clinical epidemiologists, a biostatistician, a health economist, research

assistants, and secretaries. Some equipment and cost-sharing of salaries and operating expenses will be provided by the university at home. It is considered essential that the unit be located in close proximity to the institution's clinical facilities.

The function of these CEUs will be to carry out applied health research in the community, to further the development of clinical epidemiology, and to expose students and graduate health professionals to perspectives broader than those of the tertiary care institution.

Where does this program stand now? It has financial support for the next seven years. There have been some twenty graduates, approximately ten of whom have been home for twelve to eighteen months. Two budding clinical epidemiology units have been established in China, three in Thailand, and one in Brazil. Other CEUs are being developed in Indonesia, Mexico, Nigeria, and Ethiopia. I am enjoyably involved in this program by being the supervisor of the first student from Ethiopia, a young, articulate, and wise pediatrician.

Plans have been made to have regional and global scientific meetings of members of these new CEUs, along with representatives of the training centers, representatives of the sponsoring institutions, and representatives of the international agencies which support the program. The first such global scientific meeting took place last month in Thailand. Some fifteen trainees who had been home for six months or more, trainees from all over the world, reported on the progress of their teaching and research since their return home. Their presentations gave us hope for the success of the program. Kerr White, I think, would be pleased, but the real test is still to come. Thank you, Mr. Chairman.

Discussion

DR. LIPKIN: We have heard both about the roles of North American universities in creating programs in developing countries and also about the critical role of supporters of those universities. One of the questions facing this conference is what are the potentially useful ways in which the meta-organizations in health, if you will, those not delivering the stuff themselves, but facilitating the delivery, can be most effective.

I would like to start this portion of the discussion by asking Dr. Bicknell what he would identify as things that have been helpful and things that have been unhelpful in terms of the contributions of the agencies helping and working with the B.U. projects. By that, I would include the funder, AID; members of the network of community-oriented, health-education institutions; and the foundations.

DR. BICKNELL: With regard to AID, we have, of course, had some tensions along the way but, all in all, it has been a very supportive and helpful relationship. The key people, initially in Washington and then in both Washington and in Egypt, have basically seen the project in a helpful way.

Although you can always talk about small administrative hassles, there has not been a major problem to date. The problems have been much smaller than in other projects I am familiar with or have been associated with. I think it is important to remember that Egypt has a kind of funny money. It is what used to be called special, security-assistance money. It has a few less strings around it and there is lots more of it than before, but there is an imperative to get it out of the pipeline; so it is conceivable that there could be less critical review from time to time.

Also, there may come a time when we need to say to the funder, "Hey, be a little cautious here; you can kill with kindness, with too many bucks." It is not clear, but the funding imperative plus the overriding political imperative in Egypt-U.S. relationships may inhibit informed program comment by the agency from time to time. That has not been a problem for us yet. I do think, in general, one can do better with smaller amounts of money. I do not think it is at all helpful having the kind of monies that are there at this time.

We became involved with Network schools, really, before we were very aware of the Network itself. The Network has been very supportive. For example, it has been supportive of the Dean, who has a very lonesome position in Egypt. It has been very helpful in recognizing the school and the Dean. Electing him president has been very helpful. It has served to make it multilateral, even though it is bilateral assistance. Participation in the Network helps diffuse the U.S.-Egypt dynamic.

We have had no relationship at all to date with the foundations. Who knows whether there is some role or not there? I am not certain. We are addressing future problems. There will be a shortfall between local revenues plus the ministry budget and what is minimally necessary. How that money is going to be raised is an open question. I have targeted foundation support for instance. It has been hard for us to be supportive of the epidemiology program at McMaster because we have not been able to justify that link under U.S. law. We have not been able to justify other links. It would certainly be helpful if we could because they need the epidemiology program badly.

DR. BANTA: Bill, I am curious to know what kind of model you use when you do this kind of consultation. It seems to me that this is a critical question. A lot of U.S. institutions and institutions of other industrialized countries that have been involved in the developing world have not been particularly helpful, I think because of the model that is used.

I have in mind a particular model I would like to explain briefly. I think you are talking about the same thing, and I would like to see if this is the model you are using. This is a model that Sam Bosch and I worked on and thought about a lot when we were together from 1969 to 1974. It is an integrated model of service, education, and research within a medical school or any health science school for that matter.

A key element is an integrated service system, that is, service at all levels, linked together in a regionalized system, so it is not just a tertiary care hospital. It would include secondary hospitals and, also, health centers in a primary care setting. The whole system would be used as the basis for the educational program, with the students going through the whole system. It would not just train specialists, but also train primary care practitioners.

Of course, one of the objectives of the system would be to include a much broader range of experiences, evaluations, and so forth, including research, in the curriculum than would ordinarily be the case. I particularly think of a geneticist to whom Sammy introduced me in Edinburgh who suddenly discovered there was a population out there. He then related genetics to the group practice facilities in his own research. The group practice became more effective when it had the use of his laboratory research, which was related to a population base. There are a lot of advantages if research teams see the whole field as a research base for the medical school.

DR. ROBBINS: Aren't you describing what they try to do at Ben-Gurion?

DR. BANTA: Yes, that is a model that would be worth examining in some detail.

DR. BICKNELL: I have never been to Ben-Gurion. You hear different things from different people. Asher, who was involved there for a number of years, tells me that he feels that the service capacity may not be fully developed yet, but I do not know first-hand. You have said it better than I could. The thing I would want to emphasize is that the population-based nature of everything is super-important. It is pragmatic in that it focuses on the basic health needs of the people and, therefore, is very important.

There is a need for research but, really, education and service were the first two. It did not start with a balanced mix of tertiary, secondary, and primary care, but by trying to focus on the primary, knowing full well the others would come in. If you try to start with a balanced mix, you may start unbalanced. Retraining the faculty, who are all specialists, is a gigantic problem. It is a long, slow, difficult, uphill task to orient them toward what primary care means and to what integration of medical education and service mean.

DR. BRYANT: Bill, I have visited the school in Egypt and was very impressed with it. I sat in on some of those student-led learning sessions. They were really impressive to watch. You have focused very tightly on the development of this institution in a local geographic environment.

At the same time, you know that the institution has met with considerable skepticism and even hostility by some people in Egypt, even some in the pictures you showed. Egypt is faced with the major problems of an entrenched medical educational system, nursing educational system, and a health care system that is almost paralyzed by the flood of curative-oriented manpower.

The question is, what impact can this program have on Egypt? As I mentioned to the dean, you have two percent of the students of Egypt in small classes. Do you have more than two percent of the leverage on the problems of the country?

I am using this as a way of making a larger point about where you draw your boundaries concerning your purpose. It seems to me that this little exchange that you and I are involved in now, plus the Texas-Mexico dialogue, raise the following point. If you draw your boundaries too narrowly on these problems, you become blind to some of the larger issues. If you draw them too broadly, you become paralyzed by handling problems that are too large. There is a dilemma in here about boundary-drawing in the problems we are faced with. Having said that, then, let me ask you what your feeling is about the impact of the Suez Canal operation on the larger problems of Egypt.

DR. BICKNELL: That is a good question and one that many people ask. First, it was not designed with the intent of having an impact on Egypt. Do we ask the University of Massachusetts to have an impact in California? No. Is that a realistic expectation? It is unclear if it is realistic. I think the impact will be indirect; it will be by diffusion and by example. The design was to impact an area devastated by war with rapid in-migration, a relative void in service delivery, an undersupply of physicians, etc.

A first priority was to keep the predators at bay or, more positively, to develop appropriate political linkages within the Egyptian medical-political establishment. That has been attended to over the years. Now, I think, the general reading is that even some who were skeptical feel it is there and is going to survive. The likelihood of it being shot down in a budgetary or wipe-it-out way is probably past.

The influence, I think, will be by faculty coming from other institutions, as visiting faculty, saying, "We would like to change the way we do anatomy." Or, "We really see the value of smaller class size. Let's work on that issue overall in Egypt." But it is very hard to promise to change a nation through an individual project. I think if

Suez Canal University can have an impact on the region and others can learn from it and take it where they will, that is plenty.

DR. LIPKIN: We have time for two more brief exchanges.

DR. LAIDLAW: My question has been answered as you answered Dr. Bryant's question. I was concerned with the attitude and degree of cooperation of the other medical schools to this young, rambunctious medical school. You have just answered it in the last few sentences.

DR. BICKNELL: We have been able to secure the support of some of the established medical power structure. Dr. Badran is now actively supportive. Hamdi Said, president of the Egyptian Medical Syndicate, who is about to be replaced by a new person, is actively supportive. Dr. Dewidar, chairman of the medical education section of the Supreme Council, is on the faculty council of the medical school. There are a number of links with key people in ministries in both health and education and in key university positions. There appears to be sufficient medical-political support. Many in the U.S. thought it would be shot down.

DR. ROSENTHAL: Just a quick comment, which is really more general, because I want to put this conversation in the context of the theme of the role of institutions of higher education in community health care. There are really two separate themes that we are talking about, and I would like to distinguish them.

One is, "What are the roles of universities, or the opportunities, or models for universities in developed countries to contribute to universities in less developed countries in the achievement of some of these goals?" The second issue is, "What models, what strategies exist--we have really not discussed this at all--in the less developed countries to serve as a resource for service development and other activities to contribute to Health for All by the Year 2000?" These are very different issues.

The critical observation, Bill, in your activity, is that Egypt came up with the idea. They knew what they wanted to do, and what they wanted was some help in making it happen. That is a wonderful position to be in because then you know what you can help in, and if you are wise, you also know what you cannot help in and keep your nose out of that area. That is a nice kind of technical assistance.

The universities in other countries often come out of cultural traditions about the university for which most of this conversation has zero relevance or application. It is like talking in Sanskrit. It just has nothing to do with it. They enter medical school at age 18 for some reason that has nothing to do with the planning or development of human resources in that country or in service provision. Every year in Mexico, they spit out 12,000 physicians destined to be unemployed. They know

they are going to be unemployed, and they still make the choice to study medicine.

Whatever continuing education goes on is not the responsibility of the educational system. It is the responsibility of the system providing services. Half of these doctors will never get into that system in a formal, structured way. So they are totally lost to the world of continuing education. All the other health resources are produced in other environments that are not connected in a structural way to the components of the educational system.

It seems to me that when we turn to what we want from these discussions, those themes need to be kept distinct, particularly if we are to contribute real insights as to what plays in one area and what does not play in a similar area. For example, the grappling that is going on now in Mexico to negotiate an integrated manner of thinking about the problems of human resource development between the education sector and the health sector in the face of traditions totally isolated and separate even within the health sector that will be a useful contribution on the second issue. It seems to me this distinction is really critical.

DR. LIPKIN: We would like to move on to Dr. Bosch's presentation. Dr. Bosch was born and reared in Argentina and was educated there. His first language is Spanish. Having come from a society with a very different relationship to authority, on a day of caucuses, he wanted us to understand this perspective.

It is even more remarkable, given his present roles, which are as deputy director and holder of a new endowed chair in international health at Mount Sinai. He is largely responsible, with Kurt Deuschle, for quite a complex community-oriented enterprise at the uptown end of Fifth Avenue in Manhattan. This area is one of the more complicated corners of the world. It spans, within a few blocks, the least endowed to the most developed. He is going to tell us about one of Mount Sinai's projects, in particular, the one in the Dominican Republic.

City University of New York Urban and Rural Programs

Presentation by Samuel Bosch

DR. BOSCH: Using my Latin American hat, it is particularly pleasing to have been invited to this meeting to discuss this particular issue. I have been asked to describe our social, international health program and our work in the Dominican Republic. I will begin with the principles and tenets that guide our community medicine practice in the United States. They provide a frame of reference for what I am going to say later.

The founders of Mount Sinai School of Medicine in New York made a clear commitment in 1966 to create a school that would serve societal needs. In line with this mission, a department of community medicine was created. Its service goals are: 1) to define how a medical school can help a community in matters of health and 2) to assist community groups to utilize health programs as a tool for community development and social change. Although there have always been some international endeavors, the department devoted major attention to the East Harlem community, in which our school is located, for the first twelve years. Now, we have a well-defined role in health care planning and program development in this community.

What has been the nature of this work? Inspired by the land-grant colleges, our approach has been to provide technical assistance to the leaders of local community organizations in order to facilitate their own development of community health services. We build on the abilities of community leaders by supporting their plans. We help them to define problems, identify alternative strategies for resolving those problems, and plan and implement programs.

Our philosophy is to promote self-help, to promote grass-roots development. We offer consultant services which differ from most classical consultancies in that the commitment is to strengthen community organizations and their leadership. This commitment is met primarily through education.

Our approach is founded on the conviction that helping groups organize around issues of health promotes their organization in many other matters as well. For example, we have assisted the leaders of one well-established East Harlem community organization to expand two community-oriented primary care programs into neighborhood health centers. We helped them define goals, select methods, write programs, secure funding, implement the programs, and evaluate them. Today the centers provide primary care and many other social services to over 17,000 residents in the area.

We have a broad definition of community groups. We operate from the medical school, but we include as community-groups, provider groups. So for us, Mount Sinai Hospital is another community group. Within Mount Sinai Hospital, we have a very interesting client, the Department of Medicine.

After seeing some of the things that we had done in the East Harlem community, the Department of Medicine came to us for assistance in planning and developing the conversion of their general medical clinic into a primary care group practice. We worked with them for ten years to accomplish that. Today this program is headed by the Department of Medicine, defended in the Medical School by the Department of Medicine, and serves approximately 6000 persons.

The recent creation of an endowed chair in international community medicine has given our department the opportunity and the responsibility to define a broader role and a more formal role for itself in international health. Given the magnitude of health development needs in the world, this is not an easy task. The same principles that underpin our community medicine practice in the United States guide our activities in the Dominican Republic, where we have recently completed five years of a ten-year project with an industrial group and have begun a project with a university.

In 1979, the Dominican subsidiary of Gulf and Western, the U.S. corporation, asked for our assistance in developing a rational health care delivery system in the eastern region of the country. It is an unusual community group and illustrates our flexibility in that definition. Appraisal meetings in New York and the Dominican Republic identified potentially effective local Dominican leadership and plentiful medical care resources. These were indications of the sound application of health-planning techniques which were being used in the region to increase the efficient use of resources. We accepted the challenge to participate and to test our way of assistance in an international setting.

The company is involved primarily in sugar-cane cultivation and refinement. A permanent population of approximately 40,000 workers, together with some 15,000 workers from Haiti, plant, care for, and harvest the 200,000 acres of cane needed to support the efficient operation of the sugar mill. The workers and their families are housed in 105 villages, called bateyes, varying in population from twenty to 2000 inhabitants.

Three distinct, uncoordinated health systems offer fragmented services to the population. They are the public health system, the social security system, and the company itself. When necessary, patients are referred by these local providers, who have either dispensaries or small health centers in the bateyes, to the hospitals in the city of La Ramona. Despite the plethora of health care in the area, the company was dissatisfied with the lack of progress in improving the health status of area residents and sought our help in determining how to reallocate resources to increase the effectiveness of its efforts.

Our department assigned a physician health planner, an epidemiologist, and a nurse, all Spanish-speaking and familiar with Spanish culture, to work with Dominican company personnel to develop a plan to address local needs. As in its other planning efforts, the department's assistance was divided into three sequential phases: planning the plan, developing the plan, and implementing the plan.

Phase one, planning the plan, consisted essentially of helping the local groups generate a consensus around the general goals to be pursued and the relative priorities. To this end, our team helped the company's health professionals broadly describe the characteristics, geographic

distribution, and health-related needs of the population to be served. In their discussion and analysis of this information, they identified two goals: 1) to develop a comprehensive community-oriented program of preventive and curative health care for the company's rural and urban employees and their families and 2) to develop continuing education programs for the company's health care staff.

The local planning group then appointed one of its members Director of Rural Health Care and gave him responsibility for preparation of a rural health plan. Believing that significant change cannot be fostered by just telling people what needs to be done or how it should be done, we perceive technical assistance, fundamentally, as the long-term process of education--of learning themselves, rather than being told. In this case, assistance concentrated initially on expanding the knowledge and skills of the director of rural health and his assistant, both physicians, in the areas of planning, program administration and management, epidemiology, and evaluation techniques.

In phase two, preparing the plan, our faculty team guided the program director and his assistant through the classic steps in plan development. The mandate to prepare a draft of a rural health plan helped to narrow the focus in the initial stages of the process and also provided a practical exercise through which they would gain experience in applying their new skills.

Published national and regional Dominican vital and health statistics were reviewed and analyzed, as were relevant company records, in order to describe the population to be served and the health needs in as much detail as possible. Existing public and private sector health resources--human, physical, and financial--were similarly identified and described. Preliminary goals were reviewed and more specific objectives identified. The relative advantages and limitations of alternative modes of organizing resources to achieve these objectives were weighed.

The Dominicans chose to develop a service model featuring a network of rural community-oriented primary care centers linked with city-based secondary and tertiary services and, working with our team, prepared a proposal for consideration by their colleagues and company executives. While the company accepted the initial proposal in principle, the information base about the target population was less than complete.

Consequently, a community survey of a representative sample of the rural population was conducted under local direction and with on-site assistance from our epidemiologist. Three Mount Sinai medical students served as assistants. The additional information generated permitted refinement of the plan. Working with our faculty, the Dominican planning group used the population data to define specific programs, types of services these would require, resources needed, staffing patterns, utilization forecasts, and budget projections.

In phase three, construction was completed on the first of the rural health centers. It opened in June 1982. Two physicians, a registered nurse, a nurse-aide, a laboratory technician, a pharmacy aide, and two receptionists, all from the local community, currently provide preventive and curative primary health-care services to a population of approximately 7000 persons. Well-child, prenatal services, and venereal disease control clinics function as special projects.

The center's activities are now being evaluated and, with appropriate modifications, will serve as the architectural and operational prototype for the remaining six centers in the network. The second center is scheduled to open in the fall of 1985.

During the first four years, the Department's resources were invested primarily in assisting in the development of the rural plan. During the same period, however, the team also was involved in a similar process in an urban setting. The medical director, the administrator, and the head of nursing were helped to develop a plan to improve the quality of services provided by the company's 100-bed hospital. The planning and early implementation activities were the vehicles by which this group expanded its knowledge and skills in applying current planning, evaluation, financial management, and administrative techniques. The knowledge and skills described took time and patience to develop and mature.

Recently, the work has expanded beyond its initial focus, program definition and formulation, into a broader range of activities required to sustain its concurrent program of management, evaluation, and planning efforts. As a result, our assistance has broadened too, from concentrated work with a few key individuals in leadership positions within the organization to fostering the leadership capacities of more junior staff. For example, one Dominican physician is completing two years of training in New York in health planning, clinical epidemiology, and primary care.

Similarly, our team nurse has worked closely on-site with the director of nursing in the reorganization of nursing services. A health planner has worked with the administrative assistant to expand his knowledge and skills in budgeting, cost-center accounting, financial control and management, development of a management information system, and health facilities administration in general.

Our involvement with these individuals was a first step toward what became a wider distribution of program planning and management skills among other local personnel. The number of staff members now engaged in problem-solving through systematic data analysis and program planning has increased and augments the pool of support staff able to collaborate with program leaders in defining priorities and reaching objectives. This will reduce local need for and dependence on foreign technical assistance. This is the success side of the story.

I would be very glad to share with you, during the discussion, some of the problems.

Before closing, I would like to mention a recent event that may have an impact on overall health policies in the Dominican Republic. In the fall of 1983, immediately after the creation of the international chair, another Dominican group, the Universidad Madre e Maestra, asked our help in the development of a community oriented primary care system in their region. We are in the process of negotiating a long-term agreement with their medical school that would encompass service development as well as curriculum-building activities.

This is a very different plan than the corporation. Our modus operandi in this case would have to adapt to a different constituency and different circumstances, even though we will still be guided by the same principles. We foresee that we would be able to perform our most useful role there if we can help this university join its efforts with those of the ministry of health, those of the existing Dominican association of medical schools, and perhaps those of local industry. By then, the university might be providing the ongoing technical assistance to the Gulf and Western project, where we are now involved. In the long run, the local universities, with their medical schools, can be the stable, enduring agents to assist in community development.

In summary, this case illustrates how, in our educational way of doing it, our international activities focus primarily on health planning and health-services development. These are areas which have been identified by experts as a priority need in many countries around the world.

We place our emphasis on local planning efforts which foster self-reliance. Our belief is that the people of each country must become involved themselves in identifying their needs and solving their problems. They may want and need guidance, but deciding for themselves what will be done about their needs is what will ensure long-term developmental progress. Working with local leaders in a way that encourages values and builds on local participation is a product that we believe U.S. medical schools are in a good position to export.

It is the work of all sectors of society together that has the potential for reaching such an ambitious goal as Health for All by the Year 2000 in any particular country.

DR. LIPKIN: Thank you. Dr. Reinke is going to comment on Dr. Bosch's paper in the context of the perspective of Johns Hopkins' experience in long-term institution building. Dr. Reinke is Professor of International Health at Johns Hopkins School of Hygiene and Public Health. He has a fascinating background, with an MBA in Industrial Management and a Ph.D. in Statistics and Economics. He has been a senior research mathematician.

So, we have a man with different training and, thus, a somewhat different perspective from the typical medical one.

Comment by William Reinke, Johns Hopkins University

DR. REINKE: Thank you, Mr. Chairman. As I have listened to the presentations and the comments this morning, I have noted that we have a two-pronged orientation. One theme has been the consideration of various projects and programs for the development of services, particularly primary health care services, in various places. The second theme has been this one of institution building or capacity development. The second theme is the one that I would like to focus on, both in reflecting on Dr. Bosch's comments and in saying a few things about our own experience in Indonesia.

The matter of capacity development, that is, the development of local capability to carry out projects independently on a long-term basis is, it seems to me, an extremely important consideration. We sometimes lose sight of it because we are looking for rapid payoffs on individual projects. So, I think we need to draw more attention to the institution-building aspects.

In particular, the theme that I would like to focus on is the matter of the strengthening of individual and institutional capacities, particularly health planning and management capacities, which are the areas of concern in the Dominican Republic and also in Indonesia. This focus on health planning and management addresses the necessary educational component, the health services research component, and the evaluation component, i.e., the testing of innovation in the area of planning and management, as well as the actual delivery of services.

I note both individual and institutional capacity because there are various models of promoting these. In our collaborative work in Indonesia, for example, we are working with the School of Public Health in Jakarta to help to strengthen that school as an institution. Of course, the way you do that is, among other things, to help to develop the capacity of the individuals within that institution, but there also needs to be a capacity to respond as an institution.

Parallel with our activities, the Ford Foundation is active in Indonesia in pursuing its general goal of improving child survival. The Ford Foundation is approaching the institution-building problem by identifying selected individuals in existing institutions throughout the country, for example, in departments of pediatrics in various medical schools in Indonesia. Individuals who have the motivation, who have the basic competence, and so forth are identified and supported in a kind of a network for undertaking research activities or communicating with each other, and so forth. This is done in a network within their own

individual institution, rather than by creating a new institution or strengthening a single existing institution.

These various models of capacity development need to address both individual and institutional relationships, I think. With respect to the relationships, I will make a distinction between what we have heard about relationships in the Dominican Republic and our own institutional relationships in Indonesia. In the Dominican Republic, there is principally a U.S. educational institution that is working through the LDC health sector with a very important third actor, a U.S. multinational corporation.

Increasingly, business and industry are going to be important actors in this scenario. One of the most interesting and useful aspects of the experience in the Dominican Republic, to me, is the role of the private sector, and particularly the private industrial sector, because I think there is a much more important role for that component in the future.

A fourth actor in the Dominican Republic, which was noted toward the end of the presentation, was the LDC educational institution. That is really the focus of what I want to comment upon with respect to Indonesia, in particular. We, as a U.S. educational institution working directly with an Indonesian educational institution, namely, the University of Indonesia, help that institution to strengthen its capability to be more effective in its association with the health sector, particularly the ministry of health, in Indonesia.

In all of this, the facilitator is USAID--the U.S. Government--because it is the funder. Its objective is to become a fifth component in this exercise, both centrally and in Indonesia itself.

I would like to spend just a couple of minutes now briefly outlining the specifics of our activity in Indonesia and then close with two or three common issues that come out of our experience in relation to the experience that Dr. Bosch has told us about. Our association in Indonesia is, as I say, an institution-building exercise in the fields of health planning and management and health services research, with four components, four programmatic components, being pursued toward the overall objectives.

The first component is to strengthen the curriculum at the School of Public Health in Jakarta in the field of health planning and management. About three-fourths of the degree students at the School of Public Health are from the Ministry of Health. They are managers--leaders from the Ministry of Health who will go back into leadership positions. Obviously, the strength of their training in planning and management is quite important to their functioning in their leadership roles in the ministry.

The second component is a more direct or more immediate involvement in the teaching of planning and management on a continuing education

basis. In particular, we are working with the faculty of the School of Public Health in Jakarta, which in turn is working with the Training Institute of the Ministry of Health to put on training courses at provincial and district levels on the subject of planning and management.

The third component is to strengthen the health services field research capability in Indonesia. Again, this involves us at Hopkins working with the faculty at the School of Public Health to undertake field research, to strengthen its capabilities in field research. This is in association with the Institute of Medical Research within the Ministry of Health.

The fourth component is to strengthen the local domestic technical assistance or consultative capacity. The notion here is to move increasingly away from the outside or expatriate consultants solving problems in Indonesia to the development of an actual service capability, a service consultative resource within the School of Public Health. The service capability will enable the school to work with the ministry of health in problem solving, most particularly in the area of the development of primary health care services in Indonesia.

So the four components are: 1) the curriculum, 2) the training program, 3) the field-training/continuing education in health services research in the School of Public Health, and 4) the technical assistance. We are now in the third year of this program.

Our experience over the last couple of years, coupled with what we have heard about in the Dominican Republic, leads me to devote the limited amount of remaining time to what I think are three basic issues. One is the issue of whether this support from U.S. institutions must be on a continuing basis or whether it could be a sporadic kind of input.

The problem, as noted in the Dominican Republic, with continuous input, is in forestalling the independence of the local institution. You never really quite get weaned away. On the other hand, the sporadic back-and-forth sort of thing has the risk of loss of continuity in the association. I have been on both sides of this. Sometimes where the input has been sporadic, you find yourself going back again and again with a feeling of deja vu. Here we are talking about the same issues that we were talking about six months ago and nothing has happened in the meantime. With respect to the continuous input, it is more than a weaning process. It is a matter of identifying the point at which adolescence is reached in the local institution and playing the appropriate role in facilitating the move toward independence.

It is an issue with no easy answer. It has been made relatively easy for us in Indonesia because of the tremendous motivation and hard work on the part of our Indonesian counterparts who are in the School of Public Health. They see the importance of what they are doing and continue in active pursuit of their objectives, whether we are around or not.

The second issue has to do with the academic training in the LDC institution, again noting the importance of the development of individual capacity as well as the development of institutional capacity. In Indonesia, they are quite fortunate that there is quite an amount of money that has been made available through AID for U.S. training support, so there are a lot of people from the Ministry of Health and from the educational institutions able to come to the U.S. for training.

But there is another, I think, more exciting and potentially more rewarding type of activity that we have been associated with in this and that is the so-called "sandwich" program. There is a recognized need on the part of the faculty of the School of Public Health in Indonesia that they need to have more research training at the doctoral level. This is a long-term kind of enterprise. If these people come to the States, for example, for three or four or five years, they are lost to their educational institution for that time. The question is whether their field research, their thesis topic, is going to be that relevant.

So we are working more and more on a sandwich program in which the study, the research, is done under the auspices of the University of Indonesia. Some of us at Hopkins have appointments on the faculty at the University of Indonesia now, so we can work with these people in their research program. They come to Hopkins for short periods of time, one or two academic quarters, to take selected, specific research or other specialized courses that are not available to them at the University of Indonesia.

Most of their academic training and certainly all of their field research is undertaken under the auspices of the University of Indonesia with our assistance in a sporadic, consultative capacity as we go back and forth to Jakarta. So the site of the academic training and the duration, and so forth, is an important issue in fostering these relationships.

Third, and finally, is the relationship between academic training, whether it be here or in the local setting, and field learning-by-doing kind of training. What we are attempting to foster in this regard is the development of field practice, field laboratory, or demonstration kinds of areas in association with the educational institution, in this case the University of Indonesia.

There has been a fair amount of experience with these in various places around the world. There are some who feel that this field practice is as important in the area of public health as the teaching hospital is to medicine. There are others who feel that this is very artificial, that it is not what it is cracked up to be. But it continues to be an important issue as a part of the broader issue of the link between the providers of the personnel, that is, the educational institutions, and the consumers, that is, those who provide service to the population and hire the personnel the institutions train.

Establishing appropriate links in the local setting between service, research and training, and then the link to a U.S. institution continues to be the overriding issue, I think, through all of our discussions today.

Discussion

DR. MORGAN: I just wanted to ask a question, picking up on Jack Bryant's and Mary Hassouna's comments. It has to do with these two presentations, both of which look at the role of U.S. universities outside the United States. Except for the McMaster example with Rockefeller, we seem to have three issues that I feel are important to note.

First, at least from my understanding, the projects are both very dependent on external financial support, either AID or a specific foundation or corporation. This is a long-term commitment.

Second, the approaches that have been discussed seem to me to be very management intensive. We talk about transporting staff overseas, expensive travel, cooperation, etc.

Third, it seems to me, at least from my experience, that inherent in all of these is a great dependency on some type of leadership on both the U.S. side and on the local side, and I guess I ask myself the question, "Do we have enough more of these resources in the United States that we can, in fact, expand the role?" That is the mission of this conference. We are talking about greater involvement. All three of those elements are very, very critical, and I am sure there are others that I have not discerned.

My question to the people who presented is, do they feel that we have more of these resources and, second, from a policy-decision perspective, are these the best utilization of our resources and of the country's resources? I would be very interested in the value judgments that people might make on this in terms of policy decisions. If this is the best utilization of our resources, how do we justify this in the competitive market? For example, we are talking about $10 million or $40 million worth of program activities to set up some models. I can imagine people running rural health programs and others saying, "Well, wait a second. Look at some of the needs; I mean, we could be training hundreds of community health workers, or providing millions of immunization programs or ORT packets."

I would be interested in knowing how, on a policy level, members of the university community tend to justify the financial trade-off of one versus the other.

DR. BOSCH: I think that I would like to speak to the financial issue by addressing, first, our local situation and then how that compares with

the international project. One of the strengths of what we have been able to develop locally is the capacity of a team. It is really a small team that restricts itself to technical assistance, that can be involved in several activities, and that can charge for its services; therefore, it becomes a self-sufficient team.

If you want an in-house research and development unit--

DR. ROBBINS: You are talking about the team in the country?

DR. BOSCH: Yes, I am talking now locally, especially our interaction with the East Harlem community. You heard me say it was ten years before we began to look into the international scene because what we wanted was, first, to conceptualize what we were doing and then to develop a clear modus operandi. Part of the planning, of course, was how much would it cost and could it be perpetrated, i.e., could it be institutionalized.

Because we believe in community participation, we think it is very important that the community groups who receive the money provide the manpower for the planning, implementation, and evaluation, be they consumer groups or provider groups. In the development of the neighborhood health centers in the area, it was the Hispanic community organization that got the money. Now that gives them the capacity to pay for our technical assistance to teach their leaders. For example, one-half of one of our faculty member's time is purchased on an ongoing basis. If it is a provider group, as the Department of Medicine, it is they who get the money. It is they who then purchase our technical assistance for the planning, development, and ongoing evaluation. So we remain small.

The same principle is applied in the Dominican Republic. The university is one of our most interesting clients. Our goal is to work through universities or medical schools. In our work with the university, we are training them to take our place as technical advisors. As soon as we have trained the trainers, we should be moving out of there. That program, with the coming and going of people from the Dominican Republic to the United States, is approximately $150,000 per year of purchased faculty time, so we are not speaking, really, of large sums of money.

What is interesting in relation to the corporation as a client is that it served to test the waters; it allowed us to establish a presence. Our work attracted the university.

DR. LIPKIN: Jack Laidlaw had an additional comment, I think, on this first issue.

DR. LAIDLAW: It may not be as good as Dr. Bosch's, but I will try. With respect to the International Clinical Epidemiology Network, the initial and major funding comes from The Rockefeller Foundation. What has been interesting is that, over the past couple of years, a number of other international agencies in Australia and Canada, and WHO itself, have been

willing to participate. These agencies are willing to be involved in the support of fellows in the sixteen-month training program.

Before our recent global meeting in Thailand, invitations were sent out to a number of sponsoring agencies. We frankly were surprised at how willing they seemed to be to participate in this program. The real crunch, however, will be national support for these clinical epidemiology units after the first couple of years. Will the recipient countries be willing and able to support these units financially and will they protect the members of this unit from other sirens, such as the enormously rewarding practice of medicine, in order for them to do the jobs they will be trained to do?

DR. NICHOLS: I want to raise the flip side of the financing question, that is, the ability and need for local financing as opposed to external financing. Dr. Bicknell raised this question in his remarks. I was fascinated to hear it because I thought maybe I was out in left field completely. I spoke briefly in my comments about the role and the need for local financing of our enterprise, which drives us out of the academic milieu, out of the four walls of the academic center.

The question is really directed to those of you who have been involved in the domestic scene and who know what the pressures are in your own university to establish outlying clinics, so there will be referrals into your hospital--if that rings a bell anywhere--so that you will get patients and, therefore, support your home institution. How does that apply, if at all, to the international scene, such as the program in Egypt or the program in the Dominican Republic, as you are now going beyond the corporate model to the medical center model, or the health sciences center model?

My question really gets back to the technical paper which talked about the impact of recession as an economic influence on what is happening. I would simply ask, "Is this pressure to earn income and stabilize the base in an institution, wherever in the world it may be, going to have the result of pushing us out of the ivory tower?"

DR. BICKNELL: I think that is something I would rather tangentially comment on rather than answer. It gets back to what one of the roles of donors could be. I think a great service would be done to programs if donors were far more seriously concerned with long-term operating cost issues rather than, when the rubber hits the road, backing off. I think that really sows the seeds of disaster. It is important, obviously, to maintain the program, but it also introduces a necessary management discipline in the particular country as well as here at home.

In another light, our School of Public Health has another kind of financing of an international activity. We have chosen, with a three-month summer certificate program, deliberately not to seek, at least initially, any kind of grant, contract, private foundation, or government

support. It is a program delivered here over a short period of time with people returning home. It will be supported out of whatever may be available from whatever agencies as well as individuals all over the world. It is a smaller-level market, tested each year. It is funded by a multiplicity of donors and the tuition mechanism and is essentially self-funded. In a sense, it institutionalizes what we are good at. It is really a different mechanism of funding.

Of course, there are arguments about that as well.

DR. LYBRAND: Bill, my recollection is that about five years ago the government salary for physicians in Egypt was forty-five dollars per month. Therefore, every physician-faculty member that I knew about, in every educational institution in Egypt, had a fairly substantial private practice. What is the situation in the Suez area? Do they still have substantial private clinical practices?

DR. BICKNELL: That had to be addressed. Otherwise, you would have people showing up for an hour-and-a-half a day trying to start a new school. The university-sponsored group practice was started for exactly that reason. Recognition was give to the need for income supplementation. The salaries vary, but now people get about 900 to 1000 pounds a month total salary. Maybe they would have to get 1500 pounds a month in some areas. Somewhere between 60 and 200 pounds is from their university salary.

The group practice was designed to make the faculty, in a sense, more full time and more under the control of the Dean and the faculty of medicine. In addition to taking away some of their income-generating activities, the group practice is of service not just to individual physicians, but it is of service to the institution as well.

DR. LYBRAND: Do they still have private clinics?

DR. BICKNELL: No, the ones who are members of the group practice do not. You are in the group practice or you are in a private practice. You cannot be in both. That was a hard-and-fast rule.

DR. LYBRAND: And what is the percent of your faculty in group practice?

DR. BICKNELL: It is hard to say. Essentially, the key members, the core faculty, who are committed to the concept of the school, are by and large members of the group practice.

DR. LIPKIN: We will have two minutes for Drs. Laguna, Rosenthal, and Bosch, and then I will have the last word.

DR. LAGUNA: Let me say a few words from the perspective of a developing country concerning this issue. We consider that there are two ways of promoting and achieving a change in any respect concerning health services or health education. One is to send our bright chaps to a place where

they can learn something, and the other one is getting people from abroad. So the first possibility is the best one. The second one is not very good, especially if the foreign institution and the foreign money stays for a long time in the country. If they stay for a long time in a place, the activity could get distorted and finally nothing would happen.

I would say the only successful possibility would be to accept just a catalytic influence from the foreign institution--if they can put the local people to work, say in two, three, or four years' time and then disappear. Our policy in this is very easy to understand. We cannot accept a foreign institution doing our health planning. We hope that they can help us to do our health planning. They can help us through advisory activities and maybe through financial resources, but we have to do our own health planning.

DR. ROSENTHAL: Just a quick set of comments. There are really two kinds of models of use of U.S. universities in developed countries as technical resources. One is a management-consulting model. The universities have applied that model not only in the health care area. The best of the universities, and not only in technical areas, have faculty consulting outside the university a day or two a week to bring some money in. It has become a very widespread phenomenon.

These are pure management-consulting, fee-for-service kinds of activities, essentially. Sometimes, there is really an effective relationship between the developed country universities and the less developed countries; sometimes it is with other universities, other times it is with users, and sometimes it is with the government directly.

The collaborating institution model, which is a university-user kind of technical assistance model, is another way of doing that. It is almost always a developed country institution and a less developed country institution--a university-university arrangement--that generally requires some outside long-term funding from some third source and facilitates exchanges that run in two ways.

The distinction in the strategy, the mentality, the mindset, the evaluation criteria, the generalizability, etc., is very, very important, because, early on, the collaborating institution models were the only form in which we talked about it. You know, you should have a relationship with a foreign university, etc.

But the management-consulting model is getting to be a lot more popular, if you really count what is happening. I think it reflects partly the economic issues that we talked about and partly the form of university commitment. Any individual commitment that can be incorporated into the body of the university is okay and, in that sense, is much more consistent with the kind of semi-autonomy we give to individuals in the system.

As a last comment, other countries give autonomy to the universities as a whole. We have not talked about that. That whole concept is not a concept with which most Americans have any real familiarity. When you talk about the autonomous University of Mexico, you are talking about a level of autonomy and independence, even internally, that makes many of the suggestions for how we integrate the system inapplicable. The incentives and the structures are just not there. It has to be approached from another direction. It is not impossible, but very different. There we have a whole different set of issues.

DR. BOSCH: I want to get back to Andy's question. At the local level we stay out of administering services ourselves. All we do is the R & D piece as management consultants. We give only technical assistance to those programs in our local area that are developing primary care programs, in their linkages to hospitals, for instance. We do not play favorites with Mount Sinai Hospital and require the client to use our hospital. Mount Sinai Hospital is just another client in the area. For example, those two neighborhood health centers prefer to send patients to Mount Sinai for child care, but they send patients to Metropolitan Hospital for maternal care. The choices are based on cultural relations and openness to primary care as opposed to special care, etc.

It is very interesting that you posed the question about the international arena. We are in the negotiating stage with the Universidad Madre e Maestra. They have a very interesting arrangement with the Ministry of Health. The two Ministry of Health hospitals in the city of Santiago and the eleven health centers are really all run by the Ministry of Health, but co-run in some way by the medical school. There lies the problem.

In our preliminary conversations with the university, we have said, "We can be very useful to you. We are delighted to make this agreement we have already begun. But first, we really have to know if you understand the implications of our technical assistance role if you adopt it, because that is going to change things." We think that they can use our type of technical assistance, specifically in terms of primary care development. However, if the medical school is going to continue to be the administrator of services, we can only be partially useful around very technical issues. If, on the other hand, they are interested in applying our technical-assistance modus operandi in another culture and another setting, then we can be very useful. They need to define what their role is in community medicine. Are they going to run services or just assist in their development?

DR. LIPKIN: We have heard, last night and this morning, that the university is, essentially, an extremely pleomorphic institution which harbors all kinds of agents capable of various models of change and interaction with others outside its borders. But the central thrust of the university is that it is academic--that it is concerned with education and with the pursuit of knowledge.

The reason I am coming back to that is, I think, in hearing about these wonderful demonstrations, which really are that, perhaps we are overlooking how much we do not know in these areas and how much there is to contribute between now and the year 2000 to the knowledge base.

One of the roles of institutions of higher education which I think we should not overlook, because it is ecologically sound, in Dr. Rosenblith's term, is that we really need to foster pursuit of new information. We do not know what the natural history is of most of the illnesses in our 50,000-item ICD. We do not know what the needs are.

We talk about a model, which I think is central. This model says that we need to proceed in a population-based way and perform needs assessments which are responsive to the physical problems and the cultural and social realities in the local setting. But, frankly, we do not know very well how to do that. One of the things that especially our allegedly more developed institutions of higher education can learn from other places, which are doing it better than we, is how to do needs assessment and how to make education relevant. This is another role, for U.S. institutions especially.

Once we have a needs assessment and have decided on available options, that is, effectiveness studies, we need to know about technology assessment. These are real, basic research issues. The reason I am stressing this is because it makes sense for academics to get interested in assessment/evaluation activities.

I think, also, we need to look at the ecology of the world of knowledge, if you will. The world of knowledge proceeds on the basis of its literature, by what has been described as the invisible college. It is a culture every bit as much as the subject cultures we have been hearing about today--without a Gulf and Western, I might add, to keep it stable and healthy. I think that one of the functions that academics need to consider is ways in which to contribute to a change in that culture and to development of more appropriate models.

I had a patient arrest at 3 o'clock Saturday night. He was resuscitated twenty minutes later. He is now having anoxic seizures at the cost of a thousand dollars a day at Bellevue Hospital. I talked to the family this morning. We do not know in any meaningful way how to make choices about this situation.

We have some very important roles for academics. We need to have a central paradigm of care which is really reflected in the minute-to-minute decisions as well as all in the hierarchic policy decisions of practicing medical personnel. They need to reflect some kind of integrated view, including the psychological and social aspects of health, as well as the physical.

The theme I am trying to bring in here is that one of the things we could do is study these problems in the United States. We have some big experiments which we have not invited outsiders to look at very much, the HSRA support of family practice and primary care programs. Those are some big experiments.

I was at the Rockefeller Foundation at a revisionist time when we moved from our history of support of schools of public health, now a controversial history--have they become irrelevant or not, or in what way are they now relevant?--to a Trojan horse approach, i.e., training people who will get at the centers of action and the centers of power in medical institutions, because that is where the change really occurs.

What I am trying to say is that a major function for institutions of higher education is to think about and study how to do population-based medicine, to really evaluate it and not simply let it become a new, but unexamined ethos, even if it is based on excellent values. I am not sure that the link between the values and ethos that we are promoting--for example, health education--really is beneficial to the health of the population. We need to have that demonstrated, and we need to establish in universities career paths, incentives, and respect for those kinds of considerations on an academic basis.

FOURTH SESSION

RURAL AND URBAN AREA HEALTH EDUCATION CENTERS

Moderators - Daniel Masica and Elena Nightingale

University of North Carolina Area Health Education Centers
Presenter - Eugene Mayer
Commentor - Karen Hansen

Drew Postgraduate Medical School Urban Health Program
Presenter - Alfred Haynes
Commentor - David Miller

DR. MASICA: I want to make several introductory comments about the AHEC programs and my own perspective on their relevance to the discussions that are taking place here.

In the first session, we will have Gene Mayer and Karen Hansen discuss the rural focus of the AHEC programs. After that, Drs. Haynes and Miller will discuss some urban-type AHEC activities. Certainly, the AHEC program can be viewed as one paradigm of what has taken place over the last decade in this country in the evolving relationship of the university to the community setting.

It is interesting to note in some of the commentors' observations that there are two concepts concerning the university and the community. One concept concerns the responsibility of the university to the community and the other concerns the relationship between the university and the community. I feel we can gain much insight from what has happened with the Area Health Education Centers program over the last decade.

Finally, I would just point out that we are proud, from the federal perspective, of the AHEC activity. It represents a program where federal investment has actually been picked up by others. I know there are lots of examples of federal initiatives that remain initiatives and are not passed along for others to continue in a maintenance mode. Dr. Mayer is in a good position to speak for a program that had a healthy federal investment but was able to convert to, almost exclusively today with the exception of some special project areas, nonfederal resources for maintaining, continuing, improving, and developing further.

From that perspective, I would like to introduce Dr. Gene Mayer. He is Associate Dean of the School of Medicine of the University of North Carolina and holds appointments in the Department of Family Medicine and in the School of Public Health. He is currently the Director of the North Carolina AHEC Program and has been involved with that activity since its beginning.

The only other item that Gene wanted to share is that he is among the cadre of people here who share the experience of having been a Peace Corps physician at one time.

University of North Carolina Area Health Education Centers Program

Presentation by Eugene Mayer

DR. MAYER: I may be the person in this room with the fewest credentials for speaking about international health problems. Although I was overseas for two years, I have been very little involved with international activities since the mid-1960s.

I should point out that, while I will be describing the Area Health Education Centers (AHEC) program in North Carolina, there are at least twenty other states that have some form of AHEC activity and, as Dan has indicated, it is supported in part by the Division of Medicine of the Health Resources and Services Administration as authorized by the U.S. Congress.

The national program has had varying degrees of success. My personal bias is that those projects around the country that have been most successful are the ones which have most closely followed the AHEC model as enunciated by the Carnegie Commission in its report of 1970, as elaborated upon in subsequent Carnegie reports of 1976 and 1979. And so, Dr. Hamburg, we directly relate our experiences to the work of your institution.

What I would like to share with you is a rather extensive history of four university medical centers in one state under the leadership of the University of North Carolina (UNC), attempting to relate the educational process to community settings throughout an entire state. At the end, I will try to tease out some principles, so that those of you who are much more involved with international activities can discuss and debate whether these principles have any applicability to universities in other lands.

You all have had a chance, I hope, to look at the little red book which was mailed out. The North Carolina AHEC program might be characterized in two ways. One, it is clearly a partnership at several levels. It is a partnership between and among governments, universities, community practitioners, and community leaders.

It is also an inter-institutional partnership, as I will try to describe. While the program is under the leadership of one school of medicine, UNC, actively involved in budget, program, and contracts are Duke, Bowman-Gray, and East Carolina Medical Schools as well as every school of nursing, allied health, pharmacy, public health, and dentistry in the state. In addition, a host of community colleges, technical institutes, and secondary schools are also involved in the partnership.

The third level of partnership is a multidisciplinary one. This program is not for doctors only. I will mention physicians quite often, because in our program they are particularly important, both in the

delivery of services and in political activities. However, allied health and nursing personnel are particularly important to service delivery but, unfortunately, are not quite as powerful in the political arena. While we are truly multidisciplinary, our objective is to become increasingly interdisciplinary.

The partnerships of these various groups were created in order to bring to pass a statewide program designed to bring to each and every community in North Carolina the academic process for students and medical residents, continuing education opportunities for professionals, and a range of technical-assistance activities for practitioners of all types. The overall social goal behind this program is to overcome the maldistribution of resources in our state and to maintain the quality of human resources that are developed.

I was asked to give a quick description of the population that is served. The State of North Carolina is the fourteenth largest state in land area and the tenth largest in population, with six million people. It is the second most rural state in the United States and forty-second in per capita income. For that reason, perhaps, some of our activities may have applicability in the LDCs.

It is a state which, despite its relative poverty, has a rich history of supporting higher education. We rank fourth in the nation in per capita income devoted to health education at the higher education level. Without that support, none of what I describe would have been possible. Whether that pertains to other states or to other nations is something I cannot comment on.

Yet, it is a state which, in 1970, had a primary health care delivery system with a serious maldistribution of physicians and all other types of health care manpower. We had an aging practitioner population with serious concerns for quality attendant to that aging and grossly inadequate linkages between primary, secondary, and tertiary care. To overcome these problems, our state adopted two basic strategies at the highest level. By highest level I mean our legislature, our governor, our universities, our medical societies, and our hospital association.

One was a service strategy. We set up an Office of Rural Health Services, which has been an excellent program that has taken state dollars to build rural primary care centers in at least thirty towns of North Carolina, coupled with a recruitment strategy for physicians, nurse-practitioners, and others from around the nation.

That service strategy was complemented by an education and training strategy which has a statewide focus to it. The components of this strategy are several. Some are those which many of your states also have adopted, such as increasing student enrollments, recruiting minority students, etc. There is nothing very special about these; many states have adopted the same objectives.

A major part of our education and training strategy was to 1) educate and then distribute widely the nurse-practitioner, persons who are now a very important part of the primary care system in North Carolina; 2) to train the general physician, and by that we mean general medicine, general pediatrics, and family medicine physician; and, finally, 3) to develop a system that I have the pleasure today to direct, which is called the Area Health Education Centers system, a system of education and training that was in part developed to help carry out all the other strategies I have already mentioned.

Our Major Accomplishments. From the perspective of the community, I think you will find that throughout North Carolina there is a general feeling that we have made significant improvement in the geographic distribution of physicians and other health manpower and, in particular, in the balance between generalists and specialists. In a nutshell, we have helped make primary health care easily accessible to all citizens in their local communities.

The second accomplishment from the perspective of the community, I believe, would be a recognition by the practitioners themselves that medical practices in their communities are better. They are better, in part, because of the daily presence, now, of the educational process in all 100 counties of our state. Most practitioners would agree that professional isolation has largely been done away with for those who would like to participate in the extended academic/community relationships.

The third accomplishment from the perspective of the community, I believe, is a great appreciation of the university for its help in both shaping the state policies that led to the programs and in carrying out many components of the initiatives that were a part of the 1972-74 strategy. There is no question in my mind that our universities in North Carolina are viewed now less as ivory towers but as no less devoted to excellence than they were a decade ago.

From the university perspective, the major accomplishments, perhaps, would be true enthusiasm amongst most of the faculty in the health sciences for a role in shaping and now supporting a system. In other words, I think that this has helped our faculty grapple a bit with its social significance in a changing economic and social environment.

The second thing from the university's perspective, I believe, is an appreciation of community problems to a degree that I do not think the university had before and a translation of these problems into significant curricular change in all our health science schools, into research strategies, and, in fact, into alterations in academic governance. I believe that the program has helped us blend functional competencies with a scientific base of health practice.

From the perspective of the program, the accomplishments perhaps are two. One is that we, in fact, now have a statewide classroom and, increasingly, a statewide laboratory. I will spend the rest of this portion of my presentation describing this to you.

The second accomplishment from the perspective of the program and the program director would be that, although we have created a structure that works in one state, we believe that there are principles that can have applicability in other states in this country and possibly even elsewhere in the world.

To reemphasize some of the things I have already said, our program is a multi-institutional partnership based on work statements, contracts, and budgetary flow on a state-wide basis which involves all of our university medical centers, all higher educational institutions that have any health-related programs, each major community hospital in North Carolina, and public health and social service agencies, as well as all professional practice organizations.

The basic educational objective behind this program is the decentralization of health education: medicine, dentistry, pharmacy, and public health education. Our efforts have been directed toward rationalizing and improving the regionalization of nursing and allied health education; medical residency training programs, in particular, family medicine; and continuing education for all types of health manpower in the communities where they live and work. This objective includes providing technical assistance and professional support systems for all types of health manpower.

The goals of this program depend a bit upon the perspective of the person to whom you talk. This is one of the reasons why the program has had some success. Everybody sees something in it for himself. For students, residents, and other forms of learners,--and they are obviously our most important clients--the basic benefit is clearly the curriculum enrichment in primary care.

Community-based full-time faculty and community practitioners add to that exposure. These teachers also show students that the full-time faculty back at the university are not the only people with real knowledge. So, it has been an enriching experience for students to work with competent community-based full-time faculty and practitioners. Twenty-five percent of all private physicians in North Carolina teach in the program voluntarily every year. We have approximately seventy full-time tenure-track faculty now living and working at regional centers.

The other thing it has done for students and residents is, obviously, to expose them to opportunities for community practice and, while learning, to give service in a community setting. In fact, our retention of students and residents has increased dramatically in the last decade.

For the practicing physicians the reward is an improved environment for practice which comes from regular exposure to students and residents. In addition, physicians also have better access to well trained allied health professionals; I emphasize "allied health professionals" because we believe that although our task was to improve the distribution of physicians, that one of the reasons for the maldistribution was that doctors do not prefer to practice where there are no radiology techs, where the nurses are poorly trained, or where there is no physical therapist. The program relates to all.

Practitioners have become the teachers who help translate new information--from regionalized professional support systems and from technical assistance and consultation they receive on a daily basis, and from regionalized formal continuing education programs quickly to the community practice setting.

For the community and its political base, the rewards are improved opportunities for community residents through recruitment and increased retention and distribution of health manpower of all types, in part due to the above activities.

The reward of this program from the university's perspective is to have the university firmly and permanently in the community. First, the community is enriched by the presence of the academic process. Second, the curricular and research agenda can be enriched and broadened by exposure to community problems. This interaction with the community takes place in a manner which recognizes that the program cannot cause academic standards to be sacrificed. These standards continue to remain under control of the faculties. This has not seriously compromised the efficiency of service delivery in the community. I can tell you that over the years, we have had lots of problems and challenges related to both academic standards and community involvement.

Specific Accomplishments - Accomplishments are in four categories. They are: 1) organizational activities, 2) decentralized educational activities, 3) regionalized educational activities, and 4) community impact in terms of physician supply, distribution, and related matters.

Under organizational activities, our most important accomplishment is that we actually have developed a network in our state. We have a state-wide system of education and training which is based on the existence of nine regional education and training centers, covering the entire state of North Carolina.

Each AHEC can be described as a physical building. The state put up capital dollars for us to build excellent educational facilities at the nine centers, and you will find all the things you find at an academic medical center, but in a smaller version. You will find faculty offices, classrooms, conference rooms, clinical family practice and general medicine training centers and, most importantly, excellent libraries,

with all of the modern MEDLINE and other kinds of tools that we have come to appreciate and respect at the academic center.

Our style of operation, the system itself, and the network itself might be characterized as a bridge. The AHEC program, as I said earlier, is not an academic program. We control no academic programs; the faculties and schools control the programs. We control no service delivery aspects; communities do. Our purpose is to act as a bridge. We are a bridge that people walk over in both directions--learners, faculty, practitioners. In that sense we are a passive structure, as a bridge would be.

On the other hand, we are a special kind of bridge because we have mechanisms for motivation--for helping to make people want to cross over the bridge. Those mechanisms are clearly in the form of incentives. Dollars are an important one. Status and public relations that come from the demonstrated program accomplishments are incentives to crossing the bridge. In fact, that is really about all we are in our state.

The network enhances the programs of our medical schools. Many U.S. medical schools had affiliated hospital programs in the sixties and continue to have them today. They send a few students for rotations, maybe a resident, perhaps some faculty for continuing education. The Carnegie Council concept was to create a new institutional form based in a community hospital, not a satellite of the university, but a community corporation which, in fact, becomes like a regional campus, though not owned or administered by the university. The hospital works with the university on contract through a mutually agreed-upon scope of work. The hospital has university faculty based in it. Some of these are university employees.

There are four medical schools in our partnership: UNC-Chapel Hill, Duke, Bowman-Gray, and East Carolina. Each of these has an active partnership role, three of them working with one Area Health Education Center on a daily basis, and the UNC School of Medicine working with the remaining six centers.

The remainder of the relationships and the affiliations flows from nursing, pharmacy, dentistry, and public health, according to where they are located.

We have developed decentralized medical education activities--a statewide classroom for medical students from all four schools of medicine. About ten percent of the clinical education of the students of Duke, Bowman-Gray, and East Carolina occurs in AHEC settings. About a third of the clinical training of the medical students at UNC takes place in AHEC settings. I have to be quick to point out that the bulk of this training, 80 percent, is in community hospitals where we have full-time faculty. Twenty percent is through preceptorships or in smaller hospitals

where there is no full-time faculty. So this is not just a preceptorship program, although the preceptorships are an important part of it.

Again, medical education is only a very small piece of this program. This map is designed to show you that nursing, pharmacy, public health, dentistry, and allied health are also using the statewide classroom approach in almost every county, every day of the week. Students of one type or another are studying and learning through these relationships.

The exciting thing, as I have mentioned before, is that we do have full-time faculty in certain locations. The most exciting part is the degree to which community practitioners in nursing, public health, pharmacy, medicine, and all health care fields have embraced this program and the opportunity it gives them to teach and, in fact, to keep up to date.

I do not have data or slides to show you, but medical residency training has been a particularly important part of this program, important because we have primary-care residency training now in each region of North Carolina linked to at least one of the schools of medicine. The most important message that comes out of the primary-care residency training is that that experience is where the bang for the buck is, at least in terms of physician distribution in our state. We retain 80 percent of the residents who are trained in AHEC settings, and 50 percent of those are retained in towns of under 5000 people. That, in part, accounts for the fact that we no longer have serious maldistribution problems in our state.

We not only have extensive education and training opportunities for students and residents, but we have clearly become a statewide mechanism for the dissemination of continuing education. There are many aspects to continuing education, and I want to highlight what has happened to us, because I certainly would not have predicted that this is what we would be doing when we got into this program several years ago.

If somebody had asked me several years ago what continuing education is, I would have said, "Well, a faculty member goes out for the evening, gives a one-hour talk, and comes back home." In fact, we do a lot of that and probably always will. That is how we started. That was the mechanism of trust that built the relationships between us and many of the communities--the fact that faculty members were willing to go out at night and do things like that.

We quickly discovered, as most of you in the room have discovered, that that is not necessarily the most effective mechanism for translating information. Continuing education for us now consists of between 3000 and 4000 programs a year for upwards of 100,000 participants. What that sort of statistic does not tell us is that we have gotten into both formal and informal continuing education programs.

By formal continuing education, I mean things that clearly take place in a classroom, things that can be counted. Perhaps the most important kind of continuing education we have gotten into is the less formal. It is what you may call regional technical assistance. I have already described an AHEC as a building with a full-time complement of medical, nursing, dental, pharmacy, and public health faculty. In Charlotte or Asheville or Greensboro, North Carolina you find a full-time complement of faculty in the buildings. They not only teach students and conduct formal continuing education, but their jobs are to be out in the rural counties that surround their regional centers on a daily basis, getting to know the people who live and work and practice their professions in that region.

So, as an example, there is no director of nursing, even in our smallest hospital now, that does not have somebody to turn to in order to have a question asked or answered. A formal request like, "Help me set up a program for my nurses on management of the diabetic," we all understand. What we did not expect was that we were going to hear comments like, "I was a good nurse and they punished me by making me the nursing director. I do not know anything about management. How do I recruit? How do I set up a staffing plan? How do I write a budget? How do I keep a group of nurses happy? How do I deal with doctors and administrators?"

These kinds of questions, now on a daily basis, get answered or at least assisted by the regional faculties. I do not believe there is a community hospital or health department or social service agency in the state to which you can go today where the practitioners would not tell you that the regional support system is very important for them. So our continuing education is formal and informal--one hour, one week.

We now have full degree programs off campus. Each B.S.-granting nursing school in the state now is being supported by us in conducting an off-campus BSN program for registered nurses. Those programs are taking place in six to eight regions right now. There are also off-campus Masters Degree programs in nursing for community college faculty who look to us for help in being upgraded.

The off-campus Masters in Public Health is available in at least two places. It takes three years and the students get the same degree they would get on campus. The faculty find the off-campus students to be refreshing and stimulating, perhaps because they are all holding full-time jobs. Those are some of the dimensions of our continuing education programs.

Concerning the patterns of physician distribution in our state, during the time periods from 1968 to 1972 and from 1972 to 1978, our state had more of its counties showing a decrease in the physician-to-population ratio than the the total of those that were stable and those that were improving.

This situation in our state has completely turned around in the physician-population ratios. We now have only two counties that are showing a worsening situation. We are far from finished with our work, as many of the counties still have serious deficiencies. The exciting and important thing to us is that they are getting better.

I can also point out that if one compares our most rural counties with the average of the physician-population ratio for comparable rural counties of the United States, that, over the time period that the multiple strategies in our state have been in existence--rural health services, AHEC, family medicine, etc.--we have crossed the line of deficiency and are actually improving at a rate that is somewhat faster than the national average.

In an effort to tease out some of the principles behind our program, I would like to offer the following. There is an overriding principle--I will give principles in perhaps four categories--the overriding one is that we strive on a daily basis to keep our agenda straight.

We are an education and training program; we are not a service-delivery program. On the other hand, we are not an academic program; that resides with the faculties in the schools. The agenda or the purpose of this program is to recognize everybody else's agenda. They have told us that they at least think they can do their work better by doing it together with us. This relates to some of the questions we were discussing this morning, that in some ways we are not a program that is a clear blend of education and service. We are one that brings the educational and service institutions together.

Organizational Principles. This is a voluntary program; yet, everybody chooses to participate. It is based on incentives--the incentives I briefly mentioned. Money is an important one. We have had some federal funding, for which we are appreciative, of course. That was the catalyst for this program. Our state funds the program to the tune of $22 million a year, and there are $12 million from the community in the program.

You might say, "Well, it is easy to get participation when you have that kind of money." It is true; it is. On the other hand, the money came only because of the willingness to have the participation, and we then translated that politically into getting the money. So it depends on how you look at it. Status and public relations for the institutions is an important incentive and, I think, increasingly we are beginning to recognize that.

Another principle under the organizational ones, I would say, is that a program like this requires an institutional commitment and a governmental commitment. It requires both over a long period of time. Therefore, the top leaders must be involved, people like governors, presidents of the state senate, speakers of the state house, presidents of universities, deans, chancellors, hospital directors, trustees, medical

staff leaders, medical society leaders, and county commissioners, in particular, in our state. Somehow we have managed to mold and shape that kind of confederation.

The fourth principle we have learned is that it must be built upon the established institutional structures and reflect established institutional missions and agendas and, in fact, do nothing more than add a complementary agenda to those missions.

Educational principles that undergird our program are, first and foremost, that we must help practicing professionals and other health care personnel with the kinds of questions and problems they want to raise, not the kinds of questions and problems that faculty think they ought to want to raise. That is not easy to do, and we are not always successful, but we try.

Other educational principles include those of decentralization and regionalization. Those are different as many of you know. Multi-disciplinary considerations are critical. Increasingly we are finding ourselves doing interdisciplinary things. Another principle is that our programs span the continuum of education. We believe that if we did not do that, we would have a less effective operation. We also span the continuum between formal classrooms to consultation and technical assistance, as I mentioned. We span activities that range from the clinical to the management world of practice.

Finally, the most important principle, perhaps, is one that relates to continuing relevance and survival. Someone asked, "Is a program like this still needed in the era of a putative physician surplus?" I do not know what the answer to that question is in terms of how others might feel about it. We believe, but we are biased, that there will always be a need for the kind of university-community relationships that have developed through this program, regardless of the state of development of any profession. We believe that a program such as this will survive in a state such as ours, including surviving in an era of surplus, if we can continue to be a source of professional stimulation and relate our programming to tomorrow's needs as perceived by health practitioners in our state. We believe that as long as there are people taking care of people, there will be a need for a bridge between those who teach and do research and those who primarily practice.

We have made some dramatic evolutions in our own programming. At present, we are developing a parallel structure for the whole mental health system in North Carolina. We are getting increasingly into major efforts in helping health manpower in all sorts of agencies deal with problems of the elderly. The School of Public Health is becoming an increasingly important partner in health promotion and disease prevention activities.

We are building bridges now with many important industries in our state to deal with occupational and environmental health issues. This will probably have some impact on our financing also. Then there is a whole series of management issues that relates to the changing patterns of medical practice--DRGs and all the other things that people turn to us to help interpret.

So it is in that context that we had a good time getting this thing started. We think it has withstood some tests of time. There are a lot of reasons why the University chose to get into this. A cynical view, of which there are several and all real, is that it was designed to prevent the creation of another state-supported medical school or that it was designed to educate the large number of students that were already on campus. There are those who say that it was dictated by the state political process. In part it was, but that was after we proposed it. It was also viewed as a way to get money into the school. It has accomplished that, but for a specific program purpose. It is also said that it protects the referral base of faculty in their relationships around the state, and it does.

There are many other reasons, however, depending on the faculty members with whom you talk, that led our University to get into this kind of program. Health manpower development is a part of the stated mission of our School of Medicine, and this program is one expression of that. I like to believe, and there are enough faculty who will testify to this, that the activities are, in fact, perceived by the majority of the faculty to be consistent with the basic educational philsophies that they hold for primary care and community medicine.

Finally, these kinds of activities have established and expanded the research agenda of our faculty in a way that no one dreamed possible at the beginning of the program. There is community-based research and much more community-based clinical epidemiologic research. In fact, for those who are primarily biomedical scientists, we are finding that the community service agencies and their access to patients and community collaborators have served to help stimulate and expand other opportunities that are more traditionally NIH-research-supported programs.

DR. MASICA: I am pleased also, to introduce Karen Hansen. Her educational background is in economics and political science. For close to two decades she has worked with manpower development activities. For the last seven years she has been with the University of Colorado and has been a key person in AHEC activities in Colorado. She is Director of the SEARCH program and reports to the Chancellor for Health Sciences.

Comment by Karen Hansen, University of Colorado Health Sciences Center

MS. HANSEN: I want to join several of the other speakers in saying how pleased I was to be invited here to share with you some of our experiences

in community development. For those of you who have not come to ski with us or sight-see in Colorado, I have drawn a handy-dandy free-form map.

You may be surprised to know that Colorado is approximately 40 percent plains, which is to say flat like Kansas, and about 60 percent mountains. Denver is in the center of the state and that is where the Health Sciences Center is.

The state has a population of about 3 million, 20 percent of whom live in rural areas. We define rural as those areas where people live in communities of less than 2500 population or in no community at all. So, we have got approximately 600,000 people in the state in those areas. In addition, we have a number of very, very small communities, 10,000 and under, that are scattered throughout the state.

The major population band in Colorado runs right along the eastern edge of the mountains. The Denver-Colorado Springs metropolitan area and Pueblo, a community of 100,000, are in that band. There is no other community in the state as large as Pueblo outside of the Denver metropolitan area, so it is really a very rural state.

Our AHEC is patterned significantly like the North Carolina project. We started in 1976 with a major visit to the University of North Carolina. The President of the University of Colorado, a couple of regents, a state legislator, and the Chancellor of the Health Sciences Center went to Chapel Hill. The North Carolina pattern, together with the Carnegie recipe for the state, suggested that we should have three AHECs in particular communities. We decided to establish four, which included the three communities designated by the Carnegie report, although we arrived at that decision independently from their recommendation.

Our AHECs are private, nonprofit corporations. They are not sites or extensions of the University so to speak. They are completely separate in an organizational sense. Our program is also highly multidisciplinary, as is the North Carolina program. We have medicine, dentistry, and pharmacy, six allied health disciplines and six nursing programs across the state at private and public institutions, at the junior college level as well as a the university level, that participate in the AHEC program.

We will have, this year, approximately 550 student rotations. In addition, our continuing education will be around 270 courses with 8000 participants. This does not begin to approach the North Carolina experience, but you need to understand that we have only one medical school, one dental school, one school of pharmacy, and no school of public health. So, we are not dealing with the really significant kind of major university interchange that North Carolina has.

Nor, to my everlasting regret, do we have the kind of financial support from the state that Dr. Mayer described. Whereas, North

Carolina's commitment is in the vicinity of $22 million, ours is in the vicinity of $800,000. Now I must tell you that those figures are not comparable because the North Carolina figures include family medicine residency support, among other things. In the $800,000 that the SEARCH program gets, family medicine residency support for our outlying residencies is not included. So, if you want a smaller, less expensive model, Colorado is it.

There may be another fact about Colorado that some people do not know, and that is in terms of its needs for health manpower. We have sixty-three counties in the state. Thirty-six of those are either partly or totally designated as primary-care health-manpower shortage areas. Our legislature keeps saying, "Gee, we have heard you say those figures now for five or six years. How come you are not fixing it? Why do we still have those continuing problems?"

It will probably be no surprise to you to learn that the biggest problem areas that we have are where it is flat. The plains areas do not attract a whole lot of health professionals who are into cross-country skiing. The health professionals who come to Colorado want downhill, and they cannot do that very well on the plains. The shortage area suddenly comes to a screeching halt where Durango is. That is a very attractive, highly popular community with adequate health professionals, particularly physicians. We have a few scattered pockets of need in the mountain areas, but mostly it is confined to the plains.

In terms of accomplishments, we cannot give the impact statistics yet that Gene can, but I will just give you a few process accomplishments.

Concerning where our medical students were located in '82-'83. The large groups in Pueblo, Greeley, Fort Collins, and Grand Junction, are our third-year medical students who are taking required clerkships. I say required in the sense that it is required in the curriculum. It is voluntary in the sense that the student chooses to go to that particular community to take that experience. Others primarily take up preceptorship opportunities.

Lest we forget our multidisciplinary activities, the distribution of nursing student rotations last year from the six programs that are participating with us include the University of Colorado, Northern Colorado, Southern Colorado, Mesa College, and Loretta Heights College, which is the only private college involved. In the southeastern corner of the state, in this Pueblo-Rocky Ford-La Junta axis, which we call the Lower Arkansas Valley, there is an associate degree program in a junior college.

There was earlier reference to people staying where they are trained. It is from that group of students in that program that we had the highest number of folk who were trained and stayed in the same place.

Finally, one brief comment on our dental student rotation, which I think is a terrific distribution, given that we have only twenty-five dental students per class in our program. We have a very, very committed dental faculty in terms of rural Colorado.

In terms of some of the other measures of success, in the time that our program has been operational, which has really been since about 1978, the number of our medical graduates staying in the state for residency has risen from 24 percent of the graduating class to 49 percent of the graduating class. We think that at least part of that change, which we are very happy to see, is due to the fact that the students have such a significant opportunity for training in rural parts of the state.

We have had multiple funding sources that were absolutely critical for this program, including family medicine residency grants which supported our residency programs in the outlying part of the state that preexisted the AHEC. We have nurse-practitioner and physician assistant grants and special project grants for preceptorships, which also preceded the program. We have essentially the same principles, by and large, that North Carolina has.

However, in addition to the difference between the two programs in the amount of money, we do not have full-time local faculty. All of the medical, nursing, and dental students, whose rotations you saw indicated on the slides, are taught by volunteer, community practitioners. There is no full-time university faculty at any of the community sites.

We believe that in terms of the future, the AHEC program will be known, as it has been in the past, by adaptability to the current issues in the state. The aging issue is very important in Colorado. Issues of finance and continuing support for education for allied health personnel are important also.

I would like to make a couple of comments about governance at this point. In 1972, when the first opportunity presented itself for Colorado to participate in an AHEC program, we did not. In 1977, five years later, we did. Something happened in that intervening time. One of the things that happened was a rising interest in the state in rural health issues on a variety of fronts, including the legislative side. There was a series of rural health conferences that the University was only peripherally involved with.

The regents of the University are elected, so they are politicians in one sense of the word. We had one from a rural area in southeastern Colorado who happened to be the editor of the local newspaper. He was determined that the medical center, which had that name at the time, would become more supportive of and responsive to rural health issues.

When it came time to recruit a new chancellor, he made sure that the regents wrote into the job description for the chancellor that one of the

things the chancellor would do would be to increase the outreach from the medical center into the rural areas. The overall interest from a variety of persons in the state, together with recruitment of John Cooey as the chancellor, had a real impact.

Now you have to realize that I have worked for Chancellor Cooey since 1977. I see him as a very critical part of the program, in terms of its past development and its continuing development. I was asked last night what the role of our University President has been in terms of organizational commitment. In the seven years of our AHEC program, we have had two people in that position. The first one, in the critical, early development days, did not get in the way. He did not carry a banner of support, but he did not say, "That's the craziest thing I ever heard." The second person, who is in the position now, President Arnie Webber, has been supportive, but I would say, is not a major leader of this particular activity. So John Cooey is still in place and, I think, has had a major impact on the fact that we have existed and do exist now.

Whether or not we will continue to exist, I will report to you in a few weeks, when we learn the outcome of the current legislative session. This year the program is running on about $1.1 million. It appears that we will get $800,000 for the period that starts July 1, 1984, so there will be some retrenchment. It will probably be on the organizational side. I can say to you, because the AHEC directors are not here, that we will probably have fewer than four AHECs after July 1, but we will do everything in our power to keep the program activities going.

I cannot emphasize strongly enough the notion of working with the communities. Andy Nichols made reference to his scars in his presentation earlier. We got literally beaten up once. I am sure we could compare our scars.

We have some terrific ones from the earlier days of the program, having community people say to us, "You haven't been out here in a hundred years. What are you doing here now? You must be coming to steal patients." The idea that I heard mentioned earlier, that the university should go out and build clinics in order to build up referrals, was an expectation that raised a high degree of skepticism among the community folks when we appeared. They thought that that was what we were going to do. We did not do that.

We have the communities with us, but we had to go through an enormous battle--getting rid of old baggage, skepticism, and lack of trust--to get where we are today. We also, as North Carolina and other universities have indicated, have a much calmer sort of relationship now between the communities and the university, although certainly that tension may never completely disappear.

DR. MASICA: We will allow some time for discussion, but we are running behind. Just one quick observation in relation to the concept that AHECs have really served as coordinators of multiple strategies--we certainly have heard about the term "pleomorphic." The educational focus versus a service focus is consistent with the theme of the role of universities. With that, we will entertain questions. Dr. Laidlaw?

DR. LAIDLAW: Both of the very interesting projects that have been presented this afternoon have described continuing health professional education programs, actual and potential. This could provide a marvelous opportunity for study of the effectiveness of such programs, not just in terms of whether the health professionals are educated, but whether they are educated in such a way as to change their clinical behavior and influence the outcomes of patients. A good indicator condition is hypertension. Have such continuing health professional education evaluation projects been launched in association with these special service and educational projects?

DR. MAYER: Not in our state. I agree with you that it provides the framework for that kind of study, but this is a delicate issue. Once a person is in practice and is no longer our student, how does one examine his or her practice in a way that is not threatening or offensive?

There are some people in our Department of Epidemiology in our Health Services Research Center who have an interest in those questions. There is at least one community now where hypertension is actually the target indicator. We are being bold enough to build on some of the relationships we have already developed to start to look at that particular question. But I do not have anything to report to you today.

DR. MASICA: It is interesting, both in Colorado and in North Carolina, that there are starting to be international dimensions to their activities. Both speakers have reinforced the idea that it has taken nearly a decade and, in the case of North Carolina, over a decade of activity to feel comfortable about knowing the needs of the communities that they serve, before they were willing to make the type of investment that offers experiences and sharing on an international basis.

DR. MORGAN: I was interested in the process. I think these are really two fascinating examples of total outreach. Within that, there is a question, if I understand. Karen, you said the Colorado legislature has not authorized funding, whereas in North Carolina it has. I wonder, in North Carolina, how did you go about doing that and are there any lessons learned for others? It seems to me that unless you get that political commitment clearly translated to financial commitment, it is an uphill battle. You are saying that in a few months it might all fall apart.

MS. HANSEN: I need to offer some clarification. We do have state support and have had since the second year of operation. We do not have the level which we had at first. The combined budget, for example, a year ago was $1.5 million. This year it is $1.1 million. It is likely that the 1984-85 budget will be $800,000, starting July 1st. Those are appropriated monies from the general fund of the State of Colorado.

DR. MAYER: When those with whom we are talking ask how much our program costs, and I say the state budget is $22 million and the local budget is $10-12 million, everybody very quickly says, "Well, we will see you, as there is no way, with 10 cents per person or a dollar per person, that our country, or another state even, can afford a program like yours."

You have to factor out the parts of the program and find out what that money really does. It would not take that much money to implement the principles, if you structure the program differently. We have full-time medical faculty, seventy of them. If you multiply that by an average faculty salary and fringe benefits, you have taken care of a reasonable chunk. If you factor out pay for 300 primary care residents at $15,000 a piece, you can subtract $4-1/2 million. There are ways to make the budget look more realistic.

In terms of why we get money, regardless of the level, I think we get it for several reasons. First, there was a generally accepted definition of need that institutions, practitioners, and government all shared about the time we were getting this program started.

We proposed a strategy that had everybody in it. There were some on our faculty who said, "Why are we working with Duke?" or "Why are we talking to Bowman-Gray?" and "For heaven's sake, we have been fighting to prevent the building of a new medical school; why should they be a part of this program?"

The answer is, if you do not have a statewide program, everybody in the state is not involved. We fought long and hard to have that accepted. We then got work plans from everybody in advance of budget. We reduce budgets when work plans are not fulfilled. We also worked with the trustees at community hospitals. Those are the people, in addition to professional associations, that need to be involved because it is in their institutions and in their communities that we are proposing to work.

Somehow we packaged that during the course of a couple of years in such a way that we changed what had historically been a cacophony of voices to everybody sort of saying the same kind of thing to the general assembly. Very quickly, in the political arena, that translated into support. Part of what I do as a program director, regardless of the agendas of the institutions, is to keep these people in harmony. For the most part, it works, because the program serves all their agendas. It seems to me that principle transcends geography.

DR. RUSSELL: Ms. Hansen skipped lightly over the fact that your budget is going to decrease. What I hear in that is that you are going to lose your federal money. Is that because AHEC is going to disappear at the federal level? I already know that the answer is that the administration wishes that it would, but there are several ways that the programs are funded, and one of them is by the U.S. Congress.

It seems to me, whether or not the administration wishes it would disappear, that you have a vested interest. I would like to hear from the two AHEC program directors what they feel about programs being started and then dropped. You have done wonders to keep the funding at the local level, but what about states that cannot? And what about losing your money? What do you intend to do about that?

MS. HANSEN: We started our request for state funds early on. I would say to anyone that is starting a demonstration project that they hope to keep going, they had better get their foot in the state house the minute they know they are going to do something and not wait until the third or fourth year. It is too late then to try to translate or transfer to the state or a state-local combination. We worked with the state before we ever got federal funds. We sent the legislature a position paper and said, "Here is what we are planning on doing. Here is how we think it will be funded. Here is what a five-year budget projection looks like. Here are some of our projections."

As far as the AHEC money is concerned, it is my perception, and I certainly invite comment by my colleagues on this, that the AHEC program will not disappear. The reason that the Colorado operational money has disappeared, in fact as of September 30th, has to do with the nature of the funding cycle that the government has established, so that I knew from the very beginning how long I could expect to have operational funding and, sure enough, the day comes when it is no longer.

The reason that I think we continue to have an active federal program today is largely due to the effectiveness of using the North Carolina model on a national scale. Gene can speak to the question of federal funding more eloquently than I--in dealing with the political process nationally so as not to end with the budget level at the President's proposed mark. We have always had the congressional budget level in the past, and I think we fully intend to continue that.

DR. MASICA: I will make one final comment before I turn it over. As a federal participant, I would defer to others about possibilities coming from the congressional side, but this year, from the administration's side, we have started a new cycle to stimulate new AHEC activity, the first since 1979. We feel that as in any effort there has to be, periodically, a pulsing of new-start funding to enable people to take the initiative at a local level.

We found that in this cycle there is interest in some programs that had never been explored. Over the last decade, because there is an evolution in the universities and a number of other areas, they really are trying to look at some of these issues at a statewide level.

DR. MAYER: I do not know that I have much to add. I think that Congress, much like our legislatures, hears from states that have programs and, for the most part, hears positive things, not only from program directors, but from people in the field. It is for that reason that the authorizing appropriations committees have, despite OMB and administration perspectives over the years, maintained high levels of appropriations for this program.

DR. RYAN: Of both Dr. Mayer and Dr. Hansen, the question I have is, "From the discussions we have participated in up until now, how do you relate the AHEC experience you have been immersed in to international health?" I know, Gene, that you said you are involved in some early explorations related to Ankara and to Alexandria. I would be interested in hearing where you think there are transferable or translatable experiences that are going to be relevant in international health.

DR. MAYER: That is a good question. I am not sure I know the answer because I do not deal very much internationally. The bits and pieces of conversations I have had would suggest to me that--and these observations may be off the wall--at least in the two countries I have mentioned, the health services would be benefited as much as those in our state have benefited, especially by the exposure of students and faculty to practice outside of the medical center teaching hospital.

From what I see in both those countries, physicians have obligated service--you all know more about that than I do--which turns out to be a mixture of primary care and public health. Yet, they are not trained for that sort of practice and nobody ever stays in it, as far as I can tell, after they have had the exposure.

These are simple observations. Our experience would suggest that giving the students some training and creating faculty responsibilities of one type or another in those kinds of settings, whether they are from the parent university or some practitioner who is in town--and that varies from location to location--cannot help but expand the interest of the student as well as that of the physician. The degree to which those kinds of practice settings are things to which students will eventually go may be directly related to the experiences as well as the external motivating factors. Now that is specifically physician-oriented.

Our lessons and our messages with respect to nursing education and allied health education may be even more important, at least as I have begun to learn something about the Alexandria region and a couple of provinces in Turkey. I think that people are trained inadequately to begin with, in many cases, and then put out into a system where there is

almost no professional support for them. I think that the chief benefit of a regional education and training center is that there are defined foci, whether it is in every province or in one province that serves five provinces.

There are defined foci of faculty, of teachers who are excited more by the question of what do I do to help that community practitioner do a better job than by some of the kinds of traditional academic questions they get asked back at the base university. I think that may be an important part of this. It is a way of having a regional faculty that has clinical and educational interests as opposed to only research interests. Those interests become a bridge between the practitioner and the basic research oriented people.

DR. MASICA: Dr. Nightingale, we are going to hand the baton to you in one more minute. Dr. Bosch, you had a comment you wanted to make earlier?

DR. BOSCH: Yes, I was thinking about the applicability of this to the functional scene. I was keeping the Dominican Republic in mind--a small country. I think it is very applicable as a model, for example, as a national health strategy. The coming together of policy-making bodies like the ministry of health, manpower-producing organizations such as medical schools or associations of medical schools, and the providers of care itself would be a very interesting model to emulate in a smaller country.

DR. MASICA: Dr. Nightingale is moderator for the next session.

DR. NIGHTINGALE: In a recent article in The Lancet, Stewart summarized the essence of the background papers prepared for the Technical Discussions of the World Health Organization. He stated that universities and other training institutions have as their greatest challenge in Health for All, particularly in the developing world, the production people who are capable of identifying and tackling their country's basic needs for competent practitioners and who have clear perceptions of their functions as their country's scientific, intellectual, and social leaders.

Medical schools in particular must adapt to this reality, but as you all know, medical schools, especially established ones, adapt very slowly (if at all) to change. Sometimes acute community needs arising from particular circumstances, such as a crisis, give birth to communities of scholars who come together for the purpose of fulfilling these needs.

Dr. Alfred Haynes will speak about one such crisis. He will speak of an example of the role of a new institution of higher education in health promotion and training of health manpower for an urban community in the United States. This is of particular interest here because of the rapid urbanization process going on in developing countries. We are

particularly interested in any lessons that can be learned from what Dr. Haynes will tell us that could be applied to these situations.

Dr. Haynes was present at the conception of Drew Postgraduate Medical School; before that he had an exciting and varied career. He is a graduate of Downstate Medical Center in New York and of the Harvard School of Public Health. He has held faculty appointments in several U.S. medical schools as well as in the Medical College of Trivandrum in India. He also has served as a medical officer in the U.S. Public Health Service on the Cheyenne River Indian Reservation. He is currently President and Dean of the Drew Postgraduate Medical School.

Dr. Haynes has served on many advisory councils and committees. I select for mention, for personal reasons, his very valuable service on the Institute of Medicine's Board on Health Promotion and Disease Prevention. I was privileged to work with him in that effort. He is now a member of the governing Council of the Institute of Medicine and President-Elect of the American College of Preventive Medicine. Dr. Haynes?

Drew Postgraduate Medical School Urban Health Program

Presentation by Alfred Haynes

DR. HAYNES: Drew is very pleased to be among the distinguished institutions participating in these discussions today.

We are not a university. We are a postgraduate medical school in Watts. I like to think of our school as a developing institution in a developing section of the United States. In fact, we often use that model. As you know, Watts is best known for the riots that occurred there in 1965.

The riots were the result of a primary-care problem. A man was taking his wife to the hospital to have a baby and the police thought that he was drunk and stopped him. The feelings in the community were so strong against the police and their relationship with the community that the rumor got started that the police had accosted the pregnant woman. That was blown up, and subsequently there was a great riot in which many people lost their lives.

As a result of that, some serious consideration was given to the need for a hospital in that area. Until that time the state had taken the position that there was no need for a hospital. After the riots occurred, they understood the need for a hospital in that area. As the hospital was planned, plans were made also for a postgraduate medical school. The idea of a postgraduate medical school was a very good idea because it allowed us to provide health services to the community from

the very beginning. If we had waited for a medical school, it would have taken many years before we could prepare persons to provide care in that community. By starting as a postgraduate medical school, we had persons who already had their M.D. degrees and could immediately start providing community services. We are the only free-standing postgraduate medical school in the United States today.

I think the most significant part of our experience has been the development, definition, interpretation, and reinterpretation of our mission. Early in the course of our history, we decided to define, as well as we could, the reasons for our existence. We developed a statement which said that the school was there to conduct medical education and research in the context of service to a defined population and to train persons to provide care with competence and compassion to Watts and other underserved populations. As you can well imagine, there was a great deal of debate about that statement--medical education and research in the context of service?

Cecil Shep's book, The Sick Citadel, suggests that we ought to have four goals for a medical center. One should be education; two should be research. He added, as three and four, patient care and service. Actually, we use the word "service" in the broadest context, which includes patient care. We say that the education and the research should derive from the service, which includes patient care provided by the medical center.

I well remember the early discussions about this mission and the arguments for and against this concept. I was very encouraged the morning after we had our longest discussion on this matter, when I picked up something in the mail coming from Ben-Gurion University in the Negev. Their statement of mission was very similar to what we had been discussing the night before. So, I went to my colleagues and said, "See, it is possible. There is someone else in another part of the world who is thinking exactly the same as we are. Perhaps, it is possible."

Having chosen the words, we still, time and time again, had to define and redefine the mission, to make it have meaning in the sense of what we were doing, and to build a consensus around our particular mission. We have tried to put meaning into our statement of mission by the way we select our faculty, by the way we select our medical students, and by the way we select our programs. Indeed, we select our medical students not from what they say, but on the basis of what they have done--the indications we have of their commitment to service in underserved populations. Then when the medical students come to me and say, "Do you select the faculty on the same basis that you select the medical students?", I can say, "Yes, we do." Those people are what ultimately give meaning to our mission statement. Other people are beginning to understand what we mean by our mission statement.

We are still in the developing stage. It is still to be seen whether one can develop a successful educational and research program that is based on service. Actually, the service has to come first because the education and the research grow out of the service commitment to our community. That means that service is not a luxury. We think that perhaps the most effective leverage the Dean and the President have is to be able to relate questions, problems, and decisions to the mission of the institution. You can always say, "Is this particular program consistent with the mission as we have defined it? Should we be doing this or is there something that we should not be doing?"

Our first step was to conduct an analysis of the health problems of our community to see what the needs were, what the resources available in that community were, what kind of priorities we should establish, and what kinds of strategies we should use in order to address those problems. We actually studied the Watts community in comparison with another community in the Los Angeles area and looked at the mortality and the morbidity problems in those two populations. We were struck by the significant differences--such things as homicide, accidents, and trauma, in general. We knew such things as hypertension, infant mortality, cancer, and cirrhosis were major problems.

We did not do the analysis merely for the purpose of determining a base line to set goals concerning what the community health status should be or what could be achieved during the next ten years. We did have that in mind, but that was not our main purpose. The analysis enabled us to set our priorities for the institution. We were indeed going to address the defined problems. They allowed us to know what the institution should provide in terms of a well-rounded education and where the deficiencies were that had to be provided elsewhere.

We found the analysis to be extremely helpful. A scientific analysis of the health problems and the methods of attacking those problems, in our way of thinking, is one of the important contributions that the educational institution can make to the community.

We soon realized that because of the nature of the population, the changing population, that the measurement of where we were ten years ago and where we are now is not altogether valid. For example, looking at our '80 census, we realize the population has changed significantly. At first, we had an Hispanic population of about 20 percent; now that is 40 percent. That one item changes the analysis of our population significantly.

It is, therefore, difficult, with a shifting denominator, to determine how much you have actually accomplished. But it does not really matter. In some cases, the progress is so startling that one does not need sophisticated measurements or analyses to see what actually happened.

Going back for a moment to the problem of homicide, a very striking example occurred just a week ago last Friday. You must have heard about it because it was of national concern. One of the young men whose parents died in the Jonestown massacre in Guyana apparently had some mental problem. He started sniping in the vicinity of an elementary school. Before long, six children were admitted to the hospital critically injured. One of the children died. Just a few days ago, when I made rounds in the hospital, I saw three of those critically injured children. I realized that were it not for the hospital and were it not for the fact that we realized how critical trauma would be in that area, and had we not developed a first-class trauma center, we would not have been able to save those lives. Those children would have been counted among the cases of homicide.

Even though there are many striking illustrations of our successes, we have developed sophisticated measurement and analysis capabilities and used them, not only for ourselves, but also for others. We have become a repository within the community for health information about the community. We have tried to apply that knowledge in the hospital as well as in the community.

In an article published in California Medicine, you can see, if you happen to look at it, what our analyses were and how they were applied to each department in the medical school. For example, the analysis of trauma pointed out the need for an emergency medicine department. The surgery department placed a high emphasis on developing a trauma program. The mortality problems pointed out by the analyses led the Department of Pediatrics, with Ob-Gyn, to work out joint programs in an attempt to reduce infant mortality in the area. The Department of Medicine established hypertension and diabetes programs. These were not merely hospital programs, but community programs which addressed particular problems in the community. The Department of Psychiatry established programs in alcoholism and drug abuse because of the significance of these problems in our community.

Within the community now, apart from the hospital, we have, over the years, developed a wide range of programs. Currently we have approximately twenty-five to thirty community programs, some of which are not commonly found in a medical school. For example, we have a program in adolescent sexual abuse, a preschool program for the children of mothers who are working within the hospital, a free clinic that is run at the Baptist Church twice a week, a cancer program for the children of persons who have cancer called Kids Can Cope, a hypertension education project, a drug treatment program, and an adult day-care program.

We also have a pediatric tracheostomy program for children who have had tracheostomies. We train teachers and school nurses, to allow these children to attend regular school with other children. We have a family program for the treatment of alcoholism. Our Headstart program, which

trains children before school age, enrolls 1000 children in seventeen different sites in our community.

We operate a magnet high school for students who may be interested in pursuing health careers. These students come from all over Los Angeles to participate in this new program. Their English, mathematics and science courses are based on the hospital and community health experience. We have a family planning program and an international health program. We have a cooperative program with the Ministry of Health in Kenya that is supported by USAID.

We see all of these programs as being consistent with the mission of our institution.

Early in our own development, the Office of Economic Opportunity asked us to develop a program to evaluate neighborhood health centers. At that time, there was one team on the East Coast which was Dr. Morehead's team at Albert Einstein. Our team was called DART (Drew Ambulatory Care Review Team). We evaluated health center programs funded by the Department of Health, Education, and Welfare all over the country. Even though this program is no longer continued, it had an impact on our own operation. It was a rather interesting experience for us. We did it because of our interest in underserved populations.

We now look at programs and determine whether they should be retained on the basis of whether or not they fulfill two criteria. They must provide service to the community, and they must contribute either to education or to research. These are the criteria used for determining the extent to which we ought to be involved in programs. Clearly, there is a need not only for initial analysis, but for continuing surveillance of the health problems of the community. Our program of continued surveillance or health information systems was in operation for several years; then it was temporarily discontinued. It is now about to be started again.

The final comment I would like to make has to do with economic development. We have been forced into the conclusion that an institution such as ours has to involve itself in the question of economic development. The greatest cause of ill health, probably, in our community is poverty. We have struggled over this issue. Is it appropriate for a medical center to get involved in economic development? I do not see how we can possibly avoid it when we realize how important this is to the physical and mental health of the residents.

When a young person gets his first job, something happens that helps to shape that person's attitude toward life. Not being able to get a job does something to an individual too, something to the person's mental health. We physicians should know that. We ought to be the ones who are talking about it and actually doing something about it, so we are using the medical center, which is one of the largest employers in the area, to

try to direct resources into ventures that will contribute towards the economic development of the area. Within the last year, we opened an office of economic development. It is not as controversial now as it was five years ago. All of these things, we think, are part of the fulfillment of the mission of our medical center.

DR. NIGHTINGALE: We will now proceed to Dr. David G. Miller. Dr. Miller is the commentator for Dr. Haynes' presentation. He is Medical Director of the Hough Norwood Community Health Centers and Associate Professor of Medicine in the Department of Medicine and of Epidemiology and Community Health at Case Western Reserve University, where he received his M.D. degree. He is going to wear his academic hat today and speak to us about his AHEC experience in addition to commenting on Dr. Haynes' presentation.

Comment by David G. Miller, Case Western Reserve University

DR. MILLER: I am delighted to be able to comment on Dr. Haynes' excellent paper. I first met Dr. Haynes about fifteen years ago when he visited Cleveland to see some of the things that we were doing at that time. I next met his group ten years ago when they came to audit our health center. It was a very rugged going over that they gave us. The quality of Al's work, if it is as thorough as his evaluation team proved to be, must be wonderful.

I am very pleased that Dr. Haynes stressed the mission of his school. I did not have a copy of his presentation, so I had to write my comments, hoping that they would mesh with what he was going to tell us. I think that they mesh very well.

I will move ahead and discuss the Ohio AHEC a little bit. It was among the second group funded. It is a statewide AHEC, involving seven schools of medicine and osteopathy. It is a consortium of the seven schools, of which the University of Cincinnati is first among equals.

Most of the state projects are rural. Ours in Cleveland is urban. By the most recent census, greater Cleveland has about 1,900,000 people, of which 8 percent, or about 150,000, were in families with incomes below the federal poverty level. Primary health care is available to these impoverished citizens through a complex group of usually cooperating entities, including private practitioners, community health centers, and hospital clinics. In-patient care has been provided mostly through university-affiliated teaching hospitals.

Various people have wondered what the role of the medical school should be, and they have been hard on places like Harvard that seem not to have been very innovative recently in their approach to the community. It seems to me that we need an historic perspective about this. Cleveland, for example, has had at least three large in-migrations of

people over the last 100 years. The first, shortly after the Civil War, was mostly people from Western Europe; the second at about the time of the First World War, was mostly Eastern European people. At that time, Cleveland was the most rapidly growing community in the United States. During the Second World War and in the decade after, there was a very large influx of rural people from the southern United States. Our medical school was there during that 100-year period. It responded, I am sure, to each of these mass migrations of people. In the early migrations, many of the people had jobs, so there was some hope of paying for health care. Others of them, I think, did not have jobs.

So, we have to look historically at how our medical schools have traditionally responded to some of the problems that the underdeveloped world now is up against--these massive migrations of people to the large cities. We ought to look and see what they did.

The main impact of Cleveland's AHEC program has been to allow Case Western Reserve University to make its great educational resources available to virtually all of the providers of health care to the impoverished, allowing a new spirit of cooperation and mutual respect to virtually obliterate past town-gown conflicts.

The strategies developed to achieve this remarkable effect have been three. The first and most important is the placing of medical, nursing, and dental students in many new environments throughout the inner city. Teaching funds accompany each student. Each of these sites supplies technical assistance, if requested, to ease the transition from provider of care to provider and teacher. Introducing students has had quite a marvelous effect, since everyone has derived more from the plan than they have put into it. It seems to defy one of the laws of thermodynamics.

For example, the medical students see more of the real practice of medicine and acquire insights that can be derived only from doers, not from studiers and others who are removed from the day-to-day practice situation. The health care providers find that, while they continue to be expected to do too much with too little, they now have more fun and the respect and companionship of young colleagues without the loss of efficiency they had anticipated as part of the teaching process. The patients have a new, sympathetic yet critical look taken at their management, often with significant changes being initiated in that care. The medical, nursing, and dental schools have never enjoyed better understanding of or better relationships with the community, despite the increasingly competitive nature of the marketplace.

We have studies under way now that would seem to indicate, although they are not yet complete, that the same results can be achieved without dollars going with each student. They also indicate that the productivity of the practitioners, including what the students are doing, is actually about the same as it was when the practitioners were working alone.

The second strategy of the AHEC includes providing community grand rounds. Biweekly lectures on ambulatory care topics, originally given mostly by university specialists, now, more and more, use skilled community practitioners as teachers. The third strategy has been an outreach effort to junior and senior high school students from impoverished backgrounds to try to interest them in applying themselves to studies that might allow them to enter the health care fields.

Concerning the applicability of these experiences elsewhere, I can make some observations, as I had the privilege of serving with the Peace Corps. I worked in Bangladesh when it was still called East Pakistan. I believe that aspects of our AHEC program might allow reduction of the isolation felt by rural health workers and might permit the greater dissemination of the educational benefits available in Dacca. At any rate, planners in Dacca and elsewhere could have access to this as well as to all other workable ideas that may help them to get more benefit from existing resources.

I would like to change the perspective somewhat to make a few comments about the structure on which rest most of the hopes for achieving Health for All by the Year 2000, that is, the community health center. I have spent sixteen years working at the Hough Norwood Centers in Cleveland. I am medical director and I see patients on about a half-time basis. We have three centers, originally funded by OEO and then by Health, Education, and Welfare. We now receive an annual grant from HHS. We are operated by a community board. We are not under the medical school, nor under the city. We are independent of these agencies and are funded by a federal grant, by insurance packages--we are part of an HMO--and by some fees from patients.

I would like to discuss the microcosm as compared to the bigger picture that we have all been talking about, i.e., what it is like inside the neighborhood health center. The first issue is the difficulty of recruiting staff. There are those who choose to work in these centers and those who are assigned there.

First, should I be helping the underserved? The university obviously has a significant role in trying to define the ethics of one's practice decisions. I think Dr. Haynes' points were very well taken in this regard, i.e., that community service is of great importance. Physicians should understand that they should be helping the underserved.

Second, will the job be interesting? I think the medical schools have a great role here. They should assist the community health centers by making them more vibrant and by introducing new ideas.

Third, will I be rewarded? The medical schools often have very little to do with salaries or salary structures. In Cleveland, they have nothing to do with those salaries; there is no formal relationship. But there are areas where the medical school can significantly impact rewards--I mean

through recognition. It is essential that the medical school's attitude toward these agencies be supportive and sympathetic. The professor of medicine must, as ours does, recognize that we are providing good care. It is very important that the physicians in community health centers not be regarded simply as the local medical doctor that all of us learned to sneer at when we were house officers. Other rewards, of course, are important, such as the gratitude of patients, but I am stressing mostly the things that can be favorably affected by the medical school.

Last, it is necessary that I be proud of what I am doing. Again, the medical school has a great deal to do with that by structuring the pecking order and the things for which people are rewarded. I want to say something in passing about being proud of what you are doing. When we started, we decided that we wanted to provide excellent medical care. We built that in at the beginning. We have had a continuous peer audit of the quality of care for fifteen years.

We have a whole series of quality assessments that came along before quality assessment in ambulatory care was of particular concern. Our staffs write standards; we train each other; we do a peer audit. We have a computer-assisted list of diagnoses. We audit ourselves against these diagnoses to see how we are doing. I think this has done more than any other single thing to cause our physicians to be proud of what they are doing. It is initiated by them and run by them. It is of great importance. So I would stress that community health centers must decide that they are going to provide excellent care. They have to have the support of the medical school in doing this. The medical school provides this support by reviewing care standards, sending consultants, and providing continuing education.

Another issue of importance is the attraction and retention of patients. The aura of success that results from high quality care is of great help. A community health center, if it does things with a reasonable degree of sophistication, can develop a fine reputation in the community.

In many parts of the world, attracting patients will not be a problem at all; the problem will be what to do with the huge numbers of people that come. I had the privilege of trying to assist a little clinic in a refugee colony outside Dacca and learned quickly what it is like to have an endless supply of patients with significant medical problems and, at the same time, have very real limitations of resources.

Community input is terribly important. The community should help in the organization of these centers and, if possible, should run the agencies. If it is not possible for the community to manage the center under the funding mechanisms that are available, such as a requirement for state agency administration if state funds are used, then the community must have as much significant input as possible in the center's

operation. I think that is of great importance--again, what Dr. Haynes was describing.

Financial support has to be long-term. It has to be diversified, so if there is one source of support that withers, other sources can be relied upon. Also, it is important to have reasonable working quarters, although that is not always possible.

I would like to give you a case history of what a university has done. I will use my own experience, for which I apologize, but it is the one I know best. In my own situation, my medical school trained me, or did the best that it could to train me, to be concerned about the impoverished and care for them. That was a deliberate task of the medical school, and I think that it succeeded.

Second, my medical school recruited me to be medical director of this organization, even though the medical school had no financial responsibility for the organization. It was interested in the community health center and it recruited me for the position. It rewarded me by giving me an academic position and, subsequently, tenure. Since it was not paying me very much--they continued payments on a pension started by another university--rewarding me with tenure was not a significant financial burden on them. It still was a very nice thing to do and represented support.

Of great importance is that the university has helped us recruit by referring physicians to us. The professor of medicine, presently Dr. Charles C. J. Carpenter, has referred some of his best residents to us. He has given us admitting privileges as well. The university has given continued technical assistance to our board, though there is no formal relationship between the two. The university has also given us legitimacy in the medical community by many public gestures of support.

This was all done with very little financial cost to the university. But I would stress that it is the sort of thing that universities should be doing and can be doing, and it is certainly in line with the things that Dr. Haynes was discussing.

Discussion

DR. NIGHTINGALE: I would like to start the discussion by saying I am very glad, Dr. Miller, that you mentioned at the end what the university has done to give status and recognition to your center. Gaining any kind of status for community health is very difficult in established universities.

If you start fresh with the relatively new institutions, and several examples have been talked about here--Suez Canal, Drew, and Mount Sinai--you can begin with the premise that service is very important and go on

from there. But if you have to gain status and recognition in an established university, it is much harder to do, so I was glad to hear that at one place it has been done successfully.

I also want to ask what lessons could be learned from the Drew experience for developing countries, particularly for those places where there is very rapid urbanization. What can be done that might not only contribute to the health of the community, but perhaps even prevent or mitigate social disturbance? Was a crisis necessary to create Drew or could you prevent a crisis somewhere else by learning from your experience?

DR. HAYNES: Several people have asked me whether they could replicate what happened at Drew. I do not know. I think the crisis created a certain kind of social consciousness to which a number of people responded. The faculty who joined us, especially in the beginning, were very much moved by what was happening in our society at that particular time and responded to it.

We hope that we can help prevent future crises, but are uncertain if we can. We have very strong links with the community, and they have a great deal of respect for us and what we are doing. Perhaps we can be helpful. It probably would be saying too much to say that we can prevent what happened, because the determinants of that particular situation were so much beyond any one institution's capability.

DR. BRYANT: One comment, and then a question. In Thailand, in 1976, there was a coup that was promoted largely by students who felt that the government was not providing adequate care for the people. After the rollover in government, that message persisted and the universities and the ministry of health were very much influenced by it. Following that, there was a kind of a wave of greater social consciousness in health care and in educational functions in health. That was another example where a crisis led to a consciousness that influenced the system.

I have a question that I wanted to address to Al. Al presented service in a way that is really new to me. In our earlier discussions with Professor Akinkugbe and others in Geneva--people from European universities and around the world--the idea of service was very puzzling to many of them. The European universities did not know what it was. They are not accustomed to the concept. Some would say, "What is it?" Others would say, "You don't need it." And still others would say, "It's a distraction from the mental commitments to education and research." We have seen others that have become so involved in a university hospital that they were swamped by the service load.

It is along that line that I wanted to ask a question. It seems to me, generally speaking, that we see service defined in two ways. One way is to define educational and research objectives and then let service follow from those. The service activities that are needed, in a sense,

are founded to help with the education and research. The problem with that is that one can easily, depending on what those educational and research objectives are, drift from the reality of community need. We have seen that.

Al said, in a sense,--these are not his words, but--to put service first. Not that service should be the most important activity, but that it should guide what is done in education and research. The education and research are then rooted in community needs. The risk, again, is that when you put service in that forward position, its volume, its demand, and its costs can drain the institution's capacity for creativity in the areas of education and research. Could you comment on that?

DR. HAYNES: Yes. My response would be very similar to Sam's. We recognize our limitations. We do not try to do everything. There are other organizations, other community agencies. Our role might be to help another organization accomplish things. We do what we can do well and encourage others to do the same. I think if one takes that perspective, he avoids taking on the impossible.

FIFTH SESSION

A COMMUNITY COLLEGE LINKAGE PROGRAM

Moderator - Richard Ryan

University of Alabama - Community Colleges Consortium Program for Underserved Areas

Presenter - Keith Blayney

Commentor - Antonio Zavaleta

DR. RYAN: It is a special privilege to introduce to you our next presenter. Keith Blayney, I believe, touches upon a critical issue for all of us to consider.

I recently spent several months in the Middle East working with a university that had made tremendous progress in establishing an outstanding medical school program and incrementally had added other colleges to its university. They were working with a consortium of American institutions and were involved in a sophisticated transfer of "high technology" from the United States. They very quickly have come up against the constraints that occur from not having the technician and technology infrastructure necessary to support those ambitions and to support the practice and the interest of those professionals.

Keith Blayney has been involved in a very special exercise in which he has formed linkages between non-baccalaureate programs, baccalaureate programs, professional services, and tertiary providers, developing a consortium for training and service which are relevant to the community. I think in the process of his experience in Alabama, there are lessons here for us in this country and for our colleagues abroad.

Keith has recently served as a consultant to the College of Arts, Science, and Technology in Jamaica and, I believe, spent considerable time in Jamaica assisting them. He is currently the Dean of the School of Community and Allied Health at The University of Alabama at Birmingham, has previously been the administrator of the University of Alabama Hospitals, Director of the School of Health Services Administration, and Director of the Bureau of Research and Community Services. He also has had broad community experience. I think his community development, academic administration, planning and implementation experiences are something that will interest us all.

University of Alabama - Community Colleges Consortium Program for Underserved Areas

Presentation by Keith Blayney

DR. BLAYNEY: I will try to speak quite briefly on a potpourri of our school's activities, some of which might be pertinent to other U.S. situations, and perhaps even international ones. What I have been asked to talk about is the linkage that we have developed with our state's community colleges, which is called the RTI-Junior College Linkage. I

provided each of you with a packet of materials--I hope everyone has a copy of that--because I will try to refer to that later. Now, to break up this long afternoon of presentations, I would like you to watch some TV.

Narration of Videotape Presentation

This is Vicky Mears, medical laboratory technician at Russell Hospital in Alexandria City; Kerry Keenan, biomedical equipment technician for the Andalusia Hospital; Janice Goodwin, physical therapist's assistant for the City Hospital in Cullman; and Steve Varney, emergency medical technician for the Prattville Fire Department. These individuals have a lot in common.

First, they are health care professionals, fully trained and certified to perform their jobs. Second, they do their jobs where they are needed most, at home in small Alabama communities. These communities often have difficulty attracting qualified health manpower. Vicky, Kerry, Janice, and Steve also have something else in common. Each attended community college for at least a year before entering health care training.

In addition to these common experiences, these health care professionals share a uniqueness that sets them apart from other contemporaries. All were trained under a cooperative arrangement that links twenty-six associate degree granting colleges with the Regional Technical Institute (RTI) in Birmingham.

The RTI in Birmingham is the only technical institute in the United States which is part of a major medical center. The junior college/ Regional Technical Institute linkage is designed not only to meet the state's need for allied health personnel, but also to encourage newly trained technicians to remain in their home communities, thereby helping to alleviate the problem of maldistribution of health manpower in Alabama.

Before discussing the mechanics of the linkage arrangement, let's identify some members of the health care team that work alongside doctors and nurses in a variety of areas called the allied health professions. There are more than 200 different identifiable allied health professions, all vital to the efficient and effective operation of our health care system. Included in the 200 professions are the technicians and assistants who perform lab tests and those who work as radiologists and physical, occupational, and respiratory therapists. Some of them help convalescing patients return to a normal life.

Just how important these allied health professionals are to the system is reflected in the number of jobs available each year. There are about 25,000 openings annually for medical assistants. On an average every year, there are 13,000 openings for medical laboratory technicians and 6,500 openings for radiological technologists, with the demand expected

to increase. In other words, there are jobs in the health care field, and more and more young people are getting the message.

With the demand for health care professionals goes the problem of distribution. It is hard to attract top technicians to smaller communities and rural areas. This is where the junior college/RTI linkage fits in. It is an arrangement designed to help solve the distribution problem. The mechanics of the program are largely responsible for the effects.

The Regional Technical Institute, a division of the School of Community and Allied Health (SCAH) at the University of Alabama in Birmingham (UAB), serves as an extension of the junior college campus and is the focal point for this statewide program. Under a cooperative arrangement between twenty-six associate degree granting colleges and the Regional Technical Institute, students take one year of general course work at their local colleges followed by a year of technical and clinical training at the RTI in Birmingham. Upon completion of the program, the students receive an associate degree from their colleges and a certificate from the RTI. At this point, the student is ready to take the national qualifying examination in his/her particular specialty.

To obtain a better perspective of this cooperative arrangement, let's take a closer look at the RTI and the linkage. RTI was created in 1966 at UAB as a training center for health technicians. In 1970, RTI moved into its new 50,000 square foot facility, a project funded jointly by the Appalachian Regional Commission and the State of Alabama. Since 1973, RTI has received continuing support from Alabama through its designation as a state technical institute.

The development of RTI and the linkage are closely connected. Planning for the linkage began in 1968, just two years after the creation of RTI, when a committee of educators and administrators recommended that the training of allied health professionals at UAB be consolidated into a single unit. In 1971, after a year of planning and negotiations, UAB and the State Board of Education signed an agreement to establish the linkage, which is a consortium between RTI and the state junior colleges. Today, agreements exist with all twenty-one state-supported junior colleges and also with one four-year public university, Livingston State. Three private colleges, Alabama Christian, Huntingdon in Montgomery, and Walker College also participate. In 1978, the first interstate linkage was formed when Ludlow State Community College in Tullahoma, Tennessee joined.

The initial planning and operation of the linkage program was supported by grants from the W. K. Kellogg Foundation and the Alabama Regional Medical Program. Today, educators from across the nation are coming to Alabama to study this unique linkage. Many hope to use the linkage as a model for developing similar consortia in their states.

Why is there so much interest? Economics is one reason. Training allied health professionals is a very expensive venture, especially in terms of the high cost of clinical facilities and the equipment required. For example, a piece of laboratory equipment called a chemical analyzer costs about $200,000. An automatic blood-count analyzer is worth about $135,000. Both are vital to the training of qualified lab technicians. Since allied health training is consolidated at RTI, millions of taxpayers' dollars are saved, because junior colleges are able to avoid the costly and unnecessary duplication of these laboratory facilities.

Cost effectiveness is only part of the linkage story. The major success of the linkage is what it is doing for people and their health. Interaction between RTI and other university components, especially the other health professional schools, provides students in the program with valuable experience and creates opportunities for growth. This sharing of faculty and resources not only allows for quality education, but also gives students real-life experiences in working together on the health care team.

Across the nation, rural communities are suffering from the maldistribution of health care professionals. Typically, young people have left these rural areas to receive training in the larger cities. After they have spent several years in training in the larger cities, they tend to stay there to work after graduation. In Alabama, the linkage is changing that because its students retain their home ties. Instead of spending several years away from their home communities, linkage students spend only one year at the RTI in Birmingham. That way they retain their community links, and the majority return home to work where they are needed the most.

Another reason linkage graduates return home to the rural areas is the experience they gain in training with clinical affiliates in their home communities. Clinical affiliates are hospitals, rehabilitation centers, and other health care facilities that cooperate with the linkage program by providing clinical practice for students, usually near their homes, for a period of eight to ten weeks during the final quarter of their technical training. The physical therapist's assistant program (PTA) is an example. About forty affiliated hospitals and rehabilitation centers around the state, each near at least one junior college, provide on-the-job training for linkage students in the PTA program.

This arrangement is mutually beneficial to the students, hospitals, and communities. Hospitals usually prefer to hire graduates familiar with their facilities. Students often find that they enjoy working in these facilities close to home. Both the prospective employer and the student have a chance to get to know one another. This arrangement provides a hidden benefit in that the student usually works with patients from within his or her own local community. The students, in turn, acquire a better appreciation for health care requirements in their own back yard. In the PTA program alone, having clinical affiliates near the

junior colleges has been instrumental in retaining more than 75 percent of the PTA program graduates, since 1972, in their home communities. Nearly 80 percent of the 1981 RTI graduates remained in Alabama to work, most of them at jobs in or near their home towns.

So far we have seen that the junior college/RTI linkage is one answer to the maldistribution of allied health professionals through its efforts to provide training for students in their home communities, thus encouraging those from rural areas to remain in those communities with their new knowledge and skills. In addition, because clinical training is consolidated at RTI, educational costs are minimized, while quality of training is maximized. This cooperative agreement is also something more. The linkage, which began as an innovative arrangement in 1971, is an example that could mean a great deal to the health of this country, particularly rural America.

Support for the linkage comes from Dr. Robert E. Kinsinger, Vice President of the W. K. Kellogg Foundation. Dr. Kinsinger stated that the linkage is an extremely important educational innovation. This educational venture--to prepare greatly needed technicians in the health field--will not only benefit the citizens of Alabama, but has become a model for similar educational endeavors throughout the nation.

Dean of the School of Community and Allied Health, Keith D. Blayney, has stressed the need for real-life clinical experience in training the health professional. Dean Blayney views the linkage model, with its clinical experience sites for students in their home communities, as a key to resolving the problem. The linkage concept is a means not only of providing practical health care training in the local communities, but of ultimately returning health care resources to those communities.

Blayney also feels there is a need to return to the family physician approach in health care. The approach whereby someone knows us personally and can bring his or her expertise to bear on our health care problems is to provide for multidisciplined health team professionals.

What does the future hold for the linkage?--A continuation of the ongoing success story that has made it a model worthy of imitation on a national scale, a stability of the innovative programs that have affected the quality of life of many Alabamians, and an ever increasing enrollment to meet the demands of the rapidly expanding job market.

The most important aspect of the linkage will continue to be people, people like Vicky Mears, Kerry Keenan, Janice Goodwin, and Steve Varney, and all of the folk back home who benefit from their skills and expertise. These people are the future and foundation of the junior college/Regional Technical Institute linkage. These allied health professionals, by helping to improve the quality of life in rural Alabama, while, at the same time, carving out a future for themselves, do in fact find that the path does lead home again.

I have another presentation, but in view of the hour, I think the videotape will suffice to tell the story about the linkage. I would like to just run through the brochure quickly. You notice that on the first page I tried to draw all the eggs that I, as dean, have to try to keep in the air to juggle at any one time.

The political strength of this linkage is really impressive. Each one of those junior colleges is represented by a strong legislative group in the Alabama legislature. They consider the RTI as their program. As a result, this year our school has been recommended by the governor for a 28 percent increase in budget. That has happened almost every year. We have had strong political support as a result of having a link from the community college into the medical center. We have graduated more than 4000 students and placed about 80 percent of them back in their home towns for work. We have influenced the maldistribution.

We are training some new kinds of people. We are training a multiple competency clinical technician. This is a person that is trained as a radiologist, a laboratory technician, and a medical assistant, a jack-of-all-trades. This is a countertrend, if you would, to the left-carotid-artery technician of a decade ago, when we were rushing headlong into super-specialization. These multi-competent persons might be appropriate and pertinent for use internationally. They have been very much in demand in ambulatory care settings.

DR. BRYANT: What do you call them?

DR. BLAYNEY: Multiple-competency clinical technicians. It is a terrible name, Jack, but MCCT. It is one of our special programs. Another program I might mention that has been very popular in the linkage overseas has been the biomedical equipment repair program. Almost everyone is saying that they cannot find people to maintain and repair their equipment, so that is another linkage program. The videotape showed only twelve of the programs. We have seventeen other programs in the school at either the baccalaureate, masters, or doctoral level. We include nutrition science, as well as health administration. Two of the last four years, the Outstanding Young Hospital Administrator in the United States was a graduate of this school. One of the things we are finding in terms of our international experience is a real demand to improve the quality of hospital administration preparation in developing countries.

The organizational charts appear on the next two pages. Then there is a map showing you where the junior college linkage institutions are and also the clinical sites. We take the students back to their home communities during the last part of their training for part of their clinical experience. I think that is one of the major reasons why many of them are hired in their home towns and they stay at home to work. Eighty-one percent during this last year's survey were working within fifty miles of their home county. We have been able, I think, to prove

over the years that about 80 percent of the 4000 graduates have gone back to their home towns to work.

There are some editorial cartoons on page 9. There was a cartoon that appeared just ten days ago in the Birmingham News about the role of UAB's Medical Center in terms of international care. Editorial cartoonist Brooks, I think, tried to tell what we were about in terms of trying to carry our linkage program to other institutions overseas. Some other editorial cartoons and some articles that relate are included for your information. I might point out that on the last two pages of this document there are included some quotes. One is a statement you heard from Dr. Kinsinger from the W. K. Kellogg Foundation, but there are also some others. On page 38, the one at the bottom, Dr. Sangster's quote, I think, is significant as it relates to the importance of the model of the linkage in trying to improve health care services.

I have included, also, a "lessons learned" chapter from the W. K. Kellogg Foundation publication on Lessons Learned and from an SCAH publication on sharing resources in allied health. I think there are lessons to be learned. I think there are some things that can be carried abroad. Thank you for your attention.

DR. RYAN: Thank you, Keith. Our commentator is Antonio Zavaleta, who earned his Ph.D. from the University of Texas at Austin. He is a physical anthropologist and a dedicated scientist, but a generalist who really has been a mover and shaker in Texas, especially along the border. His involvement has extended to the city council, where he recently was elected a member. He is now occupying a newly endowed chair. Antonio, I think, has some very special observations about the linkage presentation and also about innovative roles in international health and domestic concerns for special populations. Antonio.

Comment by Antonio Zavaleta, Texas Southmost Community College

DR. ZAVALETA: Thank you very much. I would like to begin my comments with a question. Keith, I noticed in one of the slides it said "state community college." Are the community colleges in Alabama supported by the state?

DR. BLAYNEY: Yes, that is right. All but three are supported by the state. There are three private community colleges.

DR. ZAVALETA: In Texas, the community college system is made up of separate taxing entities. There are community college districts, so it is a considerably different situation. My community college, for example, and all others in the state, are supported by local property tax levies, so if you live in a poor area, you do not have that many funds available.

It is my pleasure to be here with you this afternoon. I do not know whether being last on the list is a good place to be or not. I guess I can make it long or keep it short and it will be accepted. I owe my being on this side of town this afternoon to Jerry Rosenthal. He had to leave, but I thank him. I was in town for two other meetings. I am attending three meetings these three days. That is why I was in and out yesterday and today, so please forgive me for my partial absence.

The comment or title of the videotape, "The Path Leads Home," is very, very appropriate for our situation in the lower Rio Grande Valley of Texas and along the U.S.- Mexican border. Without a doubt, retention is our single biggest problem. I, myself, am a product of the community college system, having attended the community college where I am now employed before attending the University of Texas and then returning to Brownsville after graduation because of a commitment that I had to the community.

I thank Dr. Russell for the introduction she gave earlier to the College and the lower Rio Grande Valley of Texas and the U.S.-Mexican border. My institution, Texas Southmost Community College, is located in Brownsville, Texas. We are at the southernmost tip of Texas on the Mexican border. Brownsville is the largest municipality in what we call the Valley. It has consistently ranked as the poorest area in the United States. The two SMSAs which are located in our general four-county south Texas area have consistently ranked right up there at the top. The unemployment rate in Brownsville, for example, is above 20 percent.

We have a population, depending upon whom you believe, of approximately 100,000 people. On any given day in Brownsville, however, there are at least 150,000 people. Mexican Americans are 85 to 90 percent of that population. We have many illegal aliens, undocumented workers, and others, including a sizeable number of Miskito Indians from Nicaragua who now reside within the municipal boundaries of our community. You can imagine the kinds of problems that we have in delivering health care to this population.

Texas Southmost Community College provides a quality post-secondary education to a population which is poor and, for all practical purposes, has not had opportunity or access to post-secondary education historically. Our academic division trains persons to find jobs in poverty-related industries, health care, of course, among them. Our vocational-technical division, which is by no means as extensive as yours,--I was very impressed and would like, in fact, to ask you if I can get a copy of that videotape to present to my board of trustees--trains persons in the allied health professions. We hope they remain in the lower Rio Grande Valley of Texas. We have a number of programs, including LVN and ADN, respiratory therapy, medical lab technicians, and assorted others, but mainly in the general stream.

We have a number of unique factors that exist at our college in the sense that we are a member institution of the Border College Consortium.

This is a very important organization in the sense that over the years we have established dialogue with our sister institutions, our counterparts on the Mexican side of the river, the "tecnologicos," which are equivalent institutions. We also have established linkages with the University of Texas School of Public Health, the Health Science Center project which was mentioned earlier, Project Hope, and so forth. We have a linkage with the Ford Foundation, which has graciously supported the Border College Consortium, at least in part. One of our most recent linkages establishes a faculty exchange program with Costa Rica. We are also involved in data-gathering and dissemination programs. As far as community colleges are concerned in the State of Texas, and certainly along the U.S.-Mexican border, I feel that we rank clearly as one of the more innovative and creative.

It can be safely stated that community colleges have been in a strange position for years. They have been strategic in one sense, but in another sense they have not seized upon their positions or opportunities. Community colleges have traditionally done three things: 1) prepare students for transfer to state colleges and universities; 2) train persons for entry-level, vocational-technical positions in the community as was discussed in the videotape; and 3) conduct continuing education courses. Community colleges have traditionally not done research or data-collection and dissemination, nor have they established practical applied linkages with universities.

As I mentioned earlier in the day, our school is very, very remote. This is probably the most severe problem with which we have to deal. We are a good 350 miles from the nearest major university with a medical center. Along the U.S.-Mexican border the traditional roles of the community college have been very narrowly defined and interpreted. The Border College Consortium is, in that sense, unique in its implementation and innovation in terms of establishing linkages. These linkages facilitate the training of health manpower for local community health centers, including urban and rural health centers, migrant health clinics, etc. Community colleges can and will serve as the primary source of trained allied health manpower.

The problems come 1) in providing the people at the local level adequate training and 2) retaining them after training. This is a serious problem. Even if we train them, we lose them to other areas. In an economically depressed area such as ours, or any place else along the U.S.-Mexican border, graduates move to other parts of the state after training. We do not have 1) an adequate number of jobs to employ them, nor 2) the economic base to provide competitive salaries to compensate them. The community colleges, however, will continue to interface with our sister institutions for the purpose of effecting Health for All in the most holistic possible sense.

The community colleges along the border will also collect data, do research, and serve as a quality control agent. At Texas Southmost

Community College, we have a research component which is known as the Southwest Texas Institute of Latin and Mexican American Research. This is an unprecedented sort of thing to have in a community college. Over the years we have been directly involved in collecting information, conducting research projects, and disseminating the results to the community.

The problem with research projects, as I mentioned earlier today, is that even though they are conducted in our community, we do not see the results very often. My research institute, for example, has just recently conducted a massive health-needs-assessment survey for the cities of Brownsville and Matamoros. To my knowledge, this is the first of its kind. There have been a number of health-status surveys conducted, but not many health-needs-assessment surveys. We used a number of the questions in the Hispanic instrument, so that we will have comparative data for Brownsville and other Hispanic communities.

I would like to say something briefly here about the community health center. It was mentioned earlier that community health centers have a problem attracting medical staff, and the medical school serves as a very important linkage in that extent. Since we do not have Corps doctors any longer, one of the innovative things that I feel is being done at Su Clinica Familia, which is the primary health care providing agency in the lower Rio Grande Valley of Texas, is the establishment of linkages with the University of Texas and Texas Technological University Medical Schools. These linkages establish family practice residencies in the lower Rio Grande Valley and bring physicians and students into the area. Hopefully, some of those will remain in the area after their training is completed.

It was mentioned earlier that there is oftentimes a problem with the continuity of health care, especially as regards migrants, in the sense that as migrants move from the lower Rio Grande Valley of Texas upstream to the Midwest--Michigan, Ohio, Indiana--that there is no continuity of care. At our clinic, we have a demonstration project in establishing a computer system which will, in fact, follow or trace medical records or other information from the lower Rio Grande Valley of Texas into the Midwest, where the majority of migrants are seen on a year-to-year basis.

We train people at both the community college level and the clinic level to provide technical assistance to other developing centers and clinics throughout the U.S.-Mexican border area and the Southwest. This has worked very, very well.

One of the most important components of what the community college does, in terms of Health for All, is continuing education. By definition, the community college is dedicated to continuing education in its local community. We have programs like hygiene education, nutrition education, and education on folk practices. For example, there is a folk practice in our population that gained national attention recently. Some of you

may have heard of it. A folk cure that was being used by mothers for children along the U.S.-Mexican border for what we call impacho or an upset stomach, was to give them a composition that was almost 90 percent lead oxide. Needless to say, the lead poisoning that resulted was very, very serious. We conduct classes, for example, both at the community college level and at the clinic level to educate mothers and health care providers and health educators to the dangers of folk practices such as that. Maternal and child health programs, immunization programs, and general health education programs are all part of our curriculum.

Because of problems with funding in recent years, we have begun to move into, as was mentioned earlier this afternoon, the whole area of economic development. I think that grass-roots organizations, such as the one we heard described just a while ago and ours, in depressed economic areas of the country, are finding themselves in positions where they cannot rely upon the federal government, state government, or other taxing entities for the continuation of the provision of health care for indigents. As a result, we are looking into going into the real estate business. We are looking into establishing foundations and other sorts of fund-raising activities for funding research and a myriad of other kinds of activities that we will be involved in in the future.

In closing, I think that a very important question could be asked. Could the model of Su Clinica Familia as a health-care-delivery system be reproduced someplace else in the country or someplace in the world? And the answer, I think, would be that it would be very difficult. It would require the kind of grass-roots commitments that were made in this country in the early 1970s, along with the right kinds of people being in the right places at the right times. It could be done, but it would require a number of ingredients that I doubt exist today.

Finally, as far as the community college is concerned, our community college in no way has anything as impressive as we have just seen demonstrated from Alabama. For one thing, there is very little dialogue, if any, between and among the community colleges in the State of Texas. There is a certain amount of dialogue that exists between and among the community colleges of the Border College Consortium, but we do not have, nor have we had, the degree of interaction that has taken place in Alabama. This is not to say that the Alabama model could not be implemented. In fact, I am very excited about what I saw in the videotape and read in your documents. I will take those ideas back with me and see if I cannot begin to implement this process along the lower-border area.

Discussion

DR. RYAN: Keith, one of the questions that occurs to me is, "Will the success rate of the "Path Back Home" program change the directions or

emphases of the University of Alabama's programs in the near future, since you currently are retaining 88 percent of your graduates in Alabama?"

DR. BLAYNEY: I think it certainly will change over time, particularly as the job market begins to be saturated or as new kinds of occupations come on line. I think it has changed already. We have dropped programs when we felt the job market was filled and started new ones when we felt there was need. It will change and, I think, expand into the baccalaureate and masters levels.

We have also developed other programs based on the junior college linkage model. The linkage with the historically black institutions in Alabama is now in its fifth year of successful operation. We also developed some programs outside the state. The SARAHELP (Southern Arizona Regional Allied Health Educational Linkage Program) is based on the Alabama experience. In 1975, Don Pru was the person who took the model and established the program in southern Arizona.

DR. MAYER: I cannot help but be impressed with some of the similarities and principles between what you have done and what we tried to do. I would like to comment on a couple. One is that you really, as I understand, have taken multiple institutions and gotten them somehow to rally around one banner with one lead institution. You have generated state funds in support of that.

I need some information about your community college system. In our state, each community college has its own independent board which goes directly to the legislature, despite the existence of the Board of Education, and it makes joint planning virtually impossible.

DR. BLAYNEY: I know each state is different, obviously. In Alabama, each of the community colleges that are state supported reports to a single board, which makes it easier to coordinate efforts. We have had several other institutions that are private or outside the state activity voluntarily join the linkage. The single board makes it much easier in Alabama.

DR. MAYER: You have described a program that is largely oriented to the student. It is an impressive story. What do you then do once they are in practice in relation to their retention? Do you have any concepts of regional support systems that keep them stimulated and up to date, and so forth?

DR. BLAYNEY: We keep in very close touch with the graduates of the linkage program. Because we have a hospital administration graduate program, almost all the hospitals and many of the employment settings in Alabama are run by graduates of our school. We use that network in placing the graduates of the linkage program to keep up to date with what the needs are in terms of employment opportunities and to keep in touch with how they might shift over time. For example, we are monitoring the

impact of the DRGs. We are getting a response right now from the employers who are asking us to increase the number of graduates in the medical record technician program. Medical records administrators have moved from the basement to the board room because of the DRG issues. We feel this use of the network is very important because we need to lay down the hay where the goats are.

DR. BICKNELL: I agree with your comment about biomedical technicians and the multiple competency technicians. I have a question on the multiple-competency technician. What are the major areas covered by that?

DR. BLAYNEY: The major areas in the multiple-competency program are currently diagnostic imaging/radiography, that is chest film, not injection of dyes; lab work in terms of basic lab work--CBC, basic laboratory support--and medical assistance, assisting the physician in an emergency. There are a few other things too, a little physical therapy, emergency medical technology through advanced CPR, and those kinds of things. They are jacks-of-all-trades, if you will.

DR. BRYANT: I wanted to address a question that has to do with replicability of models or, really, the nonreplicability. I think your presentation and particularly Dr. Zavaleta's comments illustrate that. I really think the idea of replicable models is illusory to a large extent, because the most fundamental aspects are not the technical aspects. They are either socio-political, which is what I think you were alluding to, or they are managerial, and let me just give two quick reasons, and then I will come to a question of Dr. Zavaleta.

India has dozens of small demonstrations of Health for All on a dollar-per-person-per-year for 25,000 to 100,000 people. There is no way one can move from these small models which relate to a charismatic leader, a strong social underpinning, and a great deal of personal trust that has been developed to the 700 million people of India. In switching from a small system to a large public bureaucracy, one moves from a place where trust and charisma are intensive into one where management has to be intensive. We have to ask what the managerial equivalent of charisma or trust is. India is now struggling with that transition, and so those small models are not replicable. I think that is the point you are getting at too--that the technical aspects of your program cannot be replicated because those are not the important issues.

The important issues are the social and political ones, and so, the point I would like to make, and then ask the question, is that I think that we, therefore, want to move past the problem of the nonreplicability of these models to identifying the crucial ingredients and then hunting for how to translate those. I would ask, what are the social and political ingredients that were so crucial back there in the seventies, and which ones of those need to be identified in order to be sure they are in place if one is looking for some kind of replicability?

DR. ZAVALETA: The socio-political ingredients that existed at that time were part of a whole movement. The Valley was an area that was so completely underserved in education, housing, health, and in all other areas that there was a whole movement to bring the Mexican-American population along the border into step with the rest of the country. The federal government, by assisting us in providing monies for these projects, has, on the one hand, brought us to some extent into step, but they have also created quite a few monsters.

For example, the persons who now run places like Su Clinica Familia are your classic bureaucrats instead of migrant farm workers, as they may have been in the past. Of the twenty-or-so people who sit on the board of directors, there may be one consumer who is actually a migrant farm worker. I do not know exactly how the law would define it, but we have consumers who are lawyers and businessmen, and so forth, in the community. The whole mentality has shifted away from a community, grass roots orientation to a bureaucracy.

DR. BLAYNEY: I agree with Jack. There are some common elements, however, that could be identified as parts of a model that I think are essential to the success of a linkage. Trust-building, you know. I can tell you that we did not have any trust at all. That was the major drawback when we started. It took a lot of meetings to build trust so that people began to feel that we were really not trying to take part of their institutions. That was a major part. There is a lot known now from the social sciences about how to do that. That is an important thing.

The other thing that was important was the attention given to the distinction between and among the roles that the various parties would play. Role definitions were crucial to understanding that we were not going to duplicate roles; we were going to complement each other's strengths. Identifying leadership was important. There is a big difference between decision-makers and leaders. We tried to find the people who were going to be the leaders in those institutions to make sure that it was one program and that the leadership group was working together.

Those three things seem to me to be crucial. No matter how one went about establishing some sort of relationship between institutions or countries, those things are all important. I think there are some common elements in the AHEC descriptions, also.

DR. AKINKUGBE: I have sat through the last couple of hours being a very patient listener. I have the dubious distinction of being the only participant from across the Atlantic and also of being, although I am loaned out to WHO for a year, an active physician in what may be called quasi-rural Africa. So, I hope I will be permitted to make one or two quick observations.

The first is that I had this uneasy feeling on my way here to Washington that this workshop might be a veritable exercise in stamp collection in looking at programs in health and higher education of all kinds within the United States and seeing how all these hang together. I must say how extremely impressed I have been by the range and diversity here, which in themselves are sources of strength for this country. With each presentation, I have picked up a number of lessons which are clearly instructive.

One that I am particularly impressed by is the question of mid-level manpower support in the context of developing countries. I think this is a real pons asinorum. It is extremely difficult for developing countries to appreciate this--that however much they may wish to advance in technology, unless they have the mid-level manpower infrastructure of support, it is going to be a really unending problem trying to grapple with the problems of health.

What I say with respect to health applies with equal force to other areas. This is a problem that we are constantly grappling with in developing countries. I would hope that we would see in the Alabama experience the kind of approach that developing countries might strive towards modifying appropriately to suit the local context.

Now I would like to pose a problem. You know that in any attempt to develop mid-level support, there is the problem of the guild complex. Those who perceive themselves as the higher human beings in terms of the technological pecking order will immediately say, "Ah, that has nothing to do with universities." It is merely a question of training technicians and, therefore, they cannot see why universities should get involved. In any event, these technicians are trained in a completely different environment, because, although they eventually work with physicians, they are to be seen as a separate "race," a separate group of individuals.

This attitude is the bane of the developing world. How can we integrate all categories of manpower under the same roof? Unless the message goes down very well that it is important to interact at various levels of training, we in the developing countries are not going to get too far. I hope what we see in the Alabama experience will be a valuable and worthwhile lesson.

DR. BLAYNEY: I would just like to respond briefly. I think the allied health professions--nuclear medicine, physical therapy, respiratory therapy--are technical. Technical in the same sense that engineering is technical. So I think one can build a strong case for equity. One could argue whether or not many of the allied health support roles are professions. I know one of our speakers called the allied health technicians non-professionals. You would get lynched in Alabama for that. I think that the positions need to be argued.

I think, particularly in countries using a British model, that the polytechnic is a way to deal with the development of those programs, but it needs to be within a department of health-related sciences that can relate to the universities, so that there can be transfer of efforts. A strategy that works is to make sure that the technical programs are operated by the same baccalaureate and graduate faculties that operate the more advanced programs, so that as you have sub-baccalaureate or less than baccalaureate kinds of training programs. They are articulated with the faculty which is responsible for the baccalaureate and graduate activities in the university.

DR. ROBBINS: I was going to raise the question of maturity and senescence of programs. Programs can "senesce" very quickly. We spoke with great enthusiasm about the land-grant college program in agriculture. Then it was mentioned that the agricultural research programs, from the point of view of science, deteriorated. My impression has been that even the extension service became a sort of traditional activity, often not as well linked into the science base as it might have been, and at times the agents were out looking for things to do to justify their positions. That is a kind of evolution that activities are likely to go through.

I wanted to ask whether the people who are running the various programs we have heard about have found that physicians have helped or hindered. I am well aware that, in much of the world, efforts of the kind that we have been listening to here have been antithetical to physicians and generally have been opposed. The classical physician, trained in the Western mode, might not be sympathetic with much of what we are talking about. We selected some rather unusual people for this workshop. They do not in any way represent what is going on in the total United States, I am sorry to say.

Finally, I was interested that nobody has said a word about upward mobility. There was one, the Project Hope, which was sort of an upward mobility kind of thing. There are some countries where they tried a little of the upward mobility, but not very much. We in this country have been very bad about that. I know at least one country where they do a lot of the teaching of nurses, dentists, and physicians together. When you apply for the program, however, if you have a very good record, you are admitted to the medical program. If you have a mediocre one, you go into the dental program. The third level is placed in the nursing program. God knows what would enter into the allied health professions.

It seems to me that all of these kinds of issues are inhibitory in a way. Some of them we have been able to deal with and many of them we have not. I was delighted to hear talk about technicians with more than one capability, because when you have over 200 of these types of people to train, that is getting beyond the real limits of reasonableness. It seems to me, for instance, the visiting nurse used to have the ability to go into the home and assess the home. She did much of what we now expect a social worker to do. She could do a little physical therapy and a

variety of other things. She could have done even more if she had been allowed to.

By the way, I understand that it was in Alabama that the dental assistant program was developed, and the dental assistants were shown to be equivalent to dentists in filling teeth, but in most of this country they have not been accepted and have been ruled out. The dental hygienists have been very active, to say nothing of the dental society, in preventing their acceptance. So all of these little problems exist.

DR. RYAN: Dr. Laguna, would you care to make a comment?

DR. LAGUNA: Yes, I would like to raise two points. One, according to Dr. Blayney's presentation, you might expect that some other institution beside the university could train these allied health personnel. At home it happens that we have universities and the technological institutions--higher education institutions. The sort of in-between technological institutions are just for these sorts of technicians. Then we have the health institutions themselves. Very often they decide to train technicians. They claim that it is much better for them to train them, that they know how to train them better than anybody else, because they know what the requirements and the needs are. They can even offer a job after they give these young people this training. So, there is a diversity of possibilities, a very important thing to take into consideration. One of the objectives of this meeting is to try to know what we can do that could be useful.

I might say that it is the contents of the specific courses that we should offer to everybody in a country or a university or a health institution who is interested. It may be in the course contents that we can provide some new approaches or some new ideas to some other institutions or country.

I quite agree with the importance of educating allied health profession personnel. If we are going to advance and have a good health system, we have to depend on the scientific approach. The scientific approach to medicine, both from the prevention or diagnosing and the therapeutics aspect, has worked. The use of scientific technology in educating the allied health professions could establish a certain way of working at low cost. We cannot depend on high-level professionals to achieve Health for All. The allied health technicians are the individuals who can perform the scientific tests.

So, I would say that this proposition of Dr. Blayney's is quite a good deal. Without this scientific basis, it is just sheer magic. It is very important to transmit this idea, because usually in the developing countries they believe that medicine can be this sort of thing, this magic approach, plus some community commitment, plus some leadership.

DR. BLAYNEY: One of the things that we are trying right now relates very directly to your point. We are trying to take education to the work site. One of the problems of the allied health professions is they start out at fairly good salaries, but they do not go anywhere. They burn out very quickly in terms of their career progression. One of my ideas as a hospital administrator was to try to get persons who could do several jobs because of the way the hospital work load is organized.

Let me use, for the example, radiography, the diagnostic imaging technology. Take a good radiographer who is, say, five years into his career and is getting disillusioned because there is no place to go. Bring the educational experience into his job to train him in NMR, or as a CAT scan technician, to make him multiply-competent in the diagnostic imaging technologies. Promote him horizontally. Pay him one-and-a-half times as much. Increase the sizzle in terms of the idea of what is going on in the institution. Provide some light at the end of the tunnel for that man, and the whole institution could improve. It would also directly connect the academic institution with what is going on in practice. I think it would improve dramatically the quality of what is happening in both the clinical setting and also in our educational institutions. Those are the kinds of ideas I think we need to be thinking about.

UNKNOWN SPEAKER: Well, don't train too many in NMR now.

DR. BLAYNEY: Not too many, no. Do not train whole new cadres of people. In other words, take the person who is already out there and let him do that job, rather than setting up a new training program at some college somewhere in the United States to produce NMR technicians. Do that with the person who is already out there that you know, whom the employer has great confidence in and is willing to invest in. This would be a new, unique fringe benefit. "If you stay and work for us, I will see to it that we promote you by making you multiply-competent, through working with Tony's institution." That will add new sizzle to the whole milieu of what is going on in terms of the hospital. It will breathe new life into a sort of boring subject that is in-service, and bring academics together with the real world.

DR. MILLER: In places like community health centers, the problem frequently is with X-ray technologists. It is difficult to keep them busy.

DR. BLAYNEY: That is right--four hours of work for most radiography departments.

DR. MILLER: So instead of training them in CAT scans, it seems to me--

DR. BLAYNEY: Train them in equipment repair.

DR. MILLER: Train them in drawing blood and other things around the health center. That would improve efficiency and help us save dollars.

DR. BLAYNEY: You are right on target. Build the job according to what the needs are in your own institutions. Develop the multiple competencies around the job, not around what some academic thinks. Teach theory and practice together. You do not teach a person to fly an airplane by teaching the theory of aerodynamics. You teach him to fly the airplane by giving him enough theory, but also by letting him fly the plane once in a while.

DR. LIPKIN: At the risk of spreading Malthusian gloom, there is an interesting chart in a book that Wil Lybrand and I edited called Population-Based Medicine that shows the temporal increase in people trained in public health in South America. In the 1920s, there were three persons or something like that. When we plotted it, it was a pure, classic Malthusian curve. Although having growth in numbers in a profession is desirable and even necessary for people that you are training, it also has to be recognized that in many of our professions, including medicine and most of the allied health professions, there are very clear limits to growth and to useful productivity.

One of the problems we need to address in some academic way is how the institutions of higher learning are to be restrained and how higher training needs can be brought into some rational plan. I do not know if that is part of the agenda or not, but it is a real issue. As you know, it is not unlike the legal profession. I presume there are no lawyers here, so I will not step on any toes. But when you have too many lawyers, the lawyers start passing laws written in legalese so that only lawyers can administer them, thus, creating more jobs for lawyers. In public health, I think we are seeing some of the same. We have a proliferation of activity by people who need to be active.

DR. RYAN: On that note I would like to close and thank you all for a provocative session.

APPENDIXES

APPENDIX A

WORKSHOP PROCESS

The workshop deliberations proceeded in two major phases following an opening, introductory session. First, in a day-long series of plenary sessions, seven (7) "cases" of the involvement of United States institutions of higher education in community primary health care services programs were informally presented. After each presentation, specific comments related to the case described were offered from the experiences of another institution involved in a similar program, followed by a general discussion of the presentation open to all workshop participants.

In the second phase, five small working groups (6-8 participants) were formed, each of which developed a statement of its view of important common elements of effective higher education institutional involvement in community primary health care services programs. The working groups were aided in their deliberations by draft propositions distilled from the deliberations of the previous day's plenary sessions. The five statements from the working groups were then presented and discussed at a final plenary session of the workshop.

The workshop participants, while unanimously viewing the workshop as an important first step in what they hoped will be a continuing process, expressed the following cautions regarding the general applicability of the consensus views that emerged from the workshop.

- The sample of seven (7) "cases" presented at the workshop, along with the additional seven (7) cases that were the basis for specific comments on the presentations, illustrates a variety of institutional experiences in the United States. However, they probably do not reflect the full range and diversity of the ongoing involvement of United States institutions of higher education in community primary health care service programs. In particular, the small sample involved could not be considered representative of the existing or potential contributions of any particular category of health professionals (e.g., nursing personnel) in community health care programs.

- Although the forty (40) participants included a diverse sample of scholars from United States universities and representatives of United States government agencies concerned with national and international health programs, important types of institutions were not represented in the workshop deliberations. These include health professions and academic societies and associations, state and local governments, and international organizations.

APPENDIX B

NATIONAL ACADEMY OF SCIENCES
INSTITUTE OF MEDICINE
2101 Constitution Avenue, N.W.
Washington, D.C. 20418

Invitational Workshop

THE ROLES OF INSTITUTIONS OF HIGHER EDUCATION IN COMMUNITY HEALTH CARE

March 4-6, 1984

Agenda

Sunday, March 4, 1984

FIRST SESSION - LECTURE ROOM

5:00 - 5:05 - WELCOME
Frederick C. Robbins
President, Institute of Medicine

5:05 - 5:15 - BACKGROUND AND PURPOSE OF WORKSHOP
Walter A. Rosenblith
Institute Professor, Massachusetts Institute of Technology
Chairman and Foreign Secretary, Office of International Affairs, National Academy of Sciences

5:15 - 5:30 - AGENDA HIGHLIGHTS - 1984 WORLD HEALTH ASSEMBLY
Jose Laguna
Vice Minister of Health, Mexico

5:30 - 5:40 - U.S. POLICIES AND PERSPECTIVES IN RELATION TO WHO's GOAL OF HEALTH FOR ALL BY THE YEAR 2000
Edward N. Brandt, Jr.
Assistant Secretary for Health
Department of Health and Human Services
Chair, U.S. Delegation to 1984 World Health Assembly

5:40 - 6:10 - EXPECTATIONS FOR THE TECHNICAL DISCUSSIONS
1984 WORLD HEALTH ASSEMBLY
David A. Hamburg
President, Carnegie Corporation,
Chair, 1984 World Health Assembly Technical Discussions

John H. Bryant
Special Assistant to the Assistant Secretary for Health
Department of Health and Human Services
Member, Planning Group for Technical Discussions

O. O. Akinkugbe
Professor, Internal Medicine, University of Ibadan
Secretary to the Technical Discussions

6:10 - 6:30 - ROLE OF LAND-GRANT COLLEGES IN AGRICULTURE AND ENGINEERING
A POTENTIAL MODEL FOR HEALTH CARE SYSTEMS?

Moderator - Robert Graham
Administrator, Health Resources and
Services Administration
Department of Health and Human Services

Presenter - Steven Beering
President
Purdue University

6:30 - 7:00 - Discussion

DINNER - MEMBERS ROOM

7:00 - 9:00

Monday March 5, 1984

BREAKFAST - LECTURE ROOM

7:30 - 8:00

SECOND SESSION - LECTURE ROOM

8:00 - 10:00 - RURAL HEALTH PROGRAMS ALONG THE U.S. - MEXICAN BORDER

8:00 - 8:20 - Moderator - Gerald Rosenthal
Scholar-in-Residence
Institute of Medicine
National Academy of Sciences

Presenter - Yvonne Russell
Assistant Vice-President, Community Affairs
Associate Dean, Community Affairs
University of Texas Medical School at Galveston

8:20 - 8:30 - Commentator - Gregory Miles
Manpower Development Specialist
Medex Group
John A. Burns School of Medicine
University of Hawaii

8:30 - 9:00 - Discussion

9:00 - 9:20 - Moderator - David Banta
Deputy Director
Pan-American Health Oganization

Presenter - Andrew Nichols
Director, Rural Health Programs
University of Arizona

9:20 - 9:30 - Commentator - Margaret Aguwa
Associate Professor of Family Medicine
School of Osteopathic Medicine
Michigan State University

9:30 - 10:00 - Discussion

10:00 - 10:15 - BREAK

THIRD SESSION - LECTURE ROOM

10:15 - 12:15 - WORKING WITH UNIVERSITIES OUTSIDE THE U.S.

10:15 - 10:35 - Moderator - Mack Lipkin
Associate Professor of Medicine
Director, Primary Care Program
New York University Medical Center

Presenter - William Bicknell
Director, Office of Special Health Programs
Institute of Health Policy
Boston University

10:35 - 10:45 - Commentator - John Laidlaw
Dean, Faculty of Health Sciences
McMaster University

10:45 - 11:15 - Discussion

11:15 - 11:35 Moderator - Mack Lipkin
Associate Professor of Medicine
Director, Primary Care Program
New York University Medical Center

Presenter - Samuel J. Bosch
Charles G. Bluhdorn Professor of International Community Medicine
Mount Sinai Medical Center
City University of New York.

11:35 - 11:45 - Commentator - William Reinke
Professor and Acting Chair, Department of International Health
School of Hygiene and Public Health
Johns Hopkins Univerity

11:45 - 12:15 - Discussion

LUNCH - REFECTORY

12:15 - 1:00 - Reserved tables

FOURTH SESSION - LECTURE ROOM

1:00 - 3:15 - RURAL AND URBAN AREA HEALTH EDUCATION

1:00 - 1:20 - Moderator - Daniel Masica
Director, Division of Medicine
Health Resources and Services Administration
Department of Health and Human Services

Presenter - Eugene Mayer
Associate Dean, School of Medicine
Professor, Departments of Medicine and Family Medicine
Director, Area Health Education Centers Program
University of North Carolina

1:20 - 1:30 - Commentator - Karen Hansen
Director, SEARCH Program
University of Colorado

1:30 - 2:00 - Discussion

2:00 - 2:20 - Moderator - Elena Nightingale
Special Advisor to the President
Carnegie Corportation of New York
Adjunct Professor of Pediatrics
Georgetown University School of Medicine

Presenter - Alfred Haynes
President and Dean
Charles R. Drew Postgraduate School of Medicine

2:20 - 2:30 - Commentator - David G. Miller
Medical Director, Hough Norwood Community Health Centers
Associate Professor of Medicine, Department of Epidemiology and Community Medicine
Case Western Reserve University

2:30 - 3:00 - Discussion

3:00 - 3:15 - BREAK

FIFTH SESSION - LECTURE ROOM

3:15 - 4:15 - A COMMUNITY COLLEGE LINKAGE PROGRAM

3:15 - 3:35 - Moderator - Richard Ryan
Advisor to the President
Education Development Center

Presenter - Keith Blayney
Dean, School of Community and Allied Health
University of Alabama

3:35 - 3:45 - Commentator - Antonio Zavaleta
Director, Institute of Latin and Mexican American Research
Texas South Most Community College

3:45 - 4:15 - Discussion

4:15 - 4:30 - REVIEW OF PLANS FOR TUESDAY MORNING

Small group and room assignments

Tuesday, March 6, 1984

BREAKFAST - LECTURE ROOM

7:30 - 8:00

SIXTH SESSION

SMALL GROUP MEETINGS

8:00 - 10:00 - Review of Draft of Consensus Report
Group leaders to be elected by each group

Group A - Room 074 (below room 174 - see attached map)
Rapporteur - Wil Lybrand

Group B - Room 076 (below room 176 - see attached map)
Rapporteur - Margarett Whilden

Group C - Room 078 (below room 178 - see attached map)
Rapporteur - Eileen Connor

Group D - Room 080 (below room 180 - see attached map)
Rapporteur - Karen Bell

Group E - Lecture Hall
Rapporteur - Jessica Townsend

10:00 - 10:15 - BREAK

SEVENTH SESSION - LECTURE ROOM

10:15 - 11:15 - Moderator - Russell Morgan
Executive Director
National Council on International Health

Summary Reports - Small Group Leaders

11:15 - 11:45 - Final Comments, Guidance for Report Editing/Revision

11:45 - 12:00 - Concluding Remarks, Follow-up Plans

Frederick C. Robbins

12:00 ADJOURNMENT

APPENDIX C

LIST OF WORKSHOP PARTICIPANTS

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